

Geylani Kardaş, Ph.D.

Professor

Ege University

International Computer Institute

Bornova Metro Duragi Karsisi, 35100 Bornova / IZMIR, TURKEY

Work Tel: 90-232-3113223

Mobile: 90-555-3685360

E-mail: geylani.kardas@ege.edu.tr
geylani@gmail.com

Web: <http://akademik.ube.ege.edu.tr/~kardas>

CURRENT RESEARCH INTERESTS

- Agent-oriented Software Engineering (AOSE)
- Model-driven Engineering (MDE) of Software Systems
- Domain-specific Languages / Domain-specific Modelling Languages (DSLs / DSMLs)
- Low-code Software Development

PUBLICATIONS

Book Chapters

- [1] Karaduman, B., **Kardas, G.** and Challenger, M. (2023) "[Development of autonomous cyber-physical systems using intelligent agents and Lego technology](#)", Cyber-Physical Systems for Industrial Transformation: Fundamentals, Standards, and Protocols (1st Edition), Manogaran et al. (Eds.), CRC Press, pp. 193-211, DOI: 10.1201/9781003262527-11.
- [2] Tezel, B. T. and **Kardas, G.** (2022) "[Design principles and notation methods for the algorithms](#)", Algorithms, Donmez (Ed.), Anadolu University Press, pp. 46-65 (in Turkish).
- [3] Challenger, M., Tezel, B. T., Amaral, V., Goulao, M. and **Kardas, G.** (2021) "[Agent-based cyber-physical system development with SEA ML++](#)", Multi-Paradigm Modelling Approaches for Cyber-Physical Systems (1st Edition), Tekinerdogan et al. (Eds.), Elsevier, pp. 195-219, DOI: 10.1016/B978-0-12-819105-7.00013-1.

Journal Articles

- [1] Arslan, S., **Kardas, G.** and Alfraihi, H. (2024) "[On the usability of a modeling language for IoT-based public transportation systems](#)", Applied Sciences, vol. 14, no. 13, 5619, pp. 1-30, DOI: 10.3390/app14135619.
- [2] Ozkaya, M., **Kardas, G.** and Kose, M. A. (2023) "[An analysis of the features of requirements engineering tools](#)", Systems, vol. 11, no. 12, 576, pp. 1-32, DOI: 10.3390/systems11120576.
- [3] Arslan, S. and **Kardas, G.** (2023) "[Modeling Internet of Things software for public transformation](#)", Journal of Intelligent Transportation Systems and Applications, vol. 6, no. 2, pp. 425-445, DOI: 10.51513/jitsa.1328020.
- [4] Arslan, S., Ozkaya, M. and **Kardas, G.** (2023) "[Modeling languages for Internet of Things \(IoT\) applications: a comparative analysis study](#)", Mathematics, vol. 11, no. 5, 1263, pp. 1-35, DOI: 10.3390/math11051263 (*invited article*).
- [5] Ozkaya, M., Akdur, D., Toptani, E. C., Kocak, B. and **Kardas, G.** (2023) "[Practitioners' perspectives towards requirements engineering: a survey](#)", Systems, vol. 11, no. 2, 65, pp. 1-30, DOI: 10.3390/systems11020065.
- [6] **Kardas, G.**, Ciccozzi, F. and Iovino, L. (2023) "[Introduction to the special issue on](#)

- [*methods, tools and languages for model-driven engineering and low-code development*](#), Journal of Computer Languages, vol. 74, 101190, pp. 1-2, DOI: 10.1016/j.cola.2022.101190 (Guest Editorial).
- [7] Durmaz, C, Yildirim, K. S. and **Kardas, G.** (2022) "[*Virtualizing intermittent computing*](#)", IEEE Internet of Things Journal, vol. 9, no. 21, pp. 20869-20878, DOI: 10.1109/JIOT.2022.3176587.
- [8] Leblebici, O., **Kardas, G.** and Tuglular, T. (2022) "[*A domain-specific language for the document-based model-driven engineering of business applications*](#)", IEEE Access, vol. 10, no. 1, pp. 104093-104110, DOI: 10.1109/ACCESS.2022.3210530.
- [9] Silistre, A., Kilincceker, O., Belli, F., Challenger, M. and **Kardas, G.** (2022) "[*An end-to-end model-based approach for graphical user interface testing*](#)", EMO Scientific Journal, vol. 12, no. 23, pp. 7-19 (in Turkish).
- [10] Tepekule, M. Sakarya, M. A., Diriman R., Oguz, K. and **Kardas, G.** (2021) "[*An evaluation of using animation libraries in mobile game software processes*](#)", Turkish Informatics Foundation Journal of Computer Science and Engineering, vol. 14, no. 2, pp. 146-157, DOI: 10.54525/tbbmd.1028057 (in Turkish).
- [11] Marah, H., **Kardas, G.** and Challenger, M. (2021) "[*Model-driven round-trip engineering for TinyOS-based WSN applications*](#)", Journal of Computer Languages, vol. 65, 101051, pp. 1-16, DOI: 10.1016/j.cola.2021.101051 (**Journal of Computer Languages 2021 best paper award runner-up**).
- [12] Alaca, O. F., Tezel, B. T., Challenger, M., Goulao, M., Amaral, V. and **Kardas, G.** (2021) "[*AgentDSM-Eval: A framework for the evaluation of domain-specific modeling languages for multi-agent systems*](#)", Computer Standards & Interfaces, vol. 76, 103513, pp. 1-20, DOI: 10.1016/j.csi.2021.103513.
- [13] Mohamed, M. A., **Kardas, G.** and Challenger, M. (2021) "[*Model-driven engineering tools and languages for cyber-physical systems - A systematic literature review*](#)", IEEE Access, vol. 9, no. 1, pp. 48605-48630, DOI: 10.1109/ACCESS.2021.3068358.
- [14] Khalilipour, A., Challenger, M., Onat, M., Gezgen, H. and **Kardas, G.** (2021) "[*Refactoring legacy software for layer separation*](#)", International Journal of Software Engineering and Knowledge Engineering, vol. 31, no. 2, pp. 217-247, DOI: 10.1142/S0218194021500066.
- [15] Asici, T. Z., Tezel, B. T. and **Kardas, G.** (2021) "[*On the use of the analytic hierarchy process in the evaluation of domain-specific modeling languages for multi-agent systems*](#)", Journal of Computer Languages, vol. 62, 101020, pp. 1-15, DOI: 10.1016/j.cola.2020.101020.
- [16] Mohamed, M. A., Challenger, M. and **Kardas, G.** (2020) "[*Applications of model-driven engineering in cyber-physical systems: A systematic mapping study*](#)", Journal of Computer Languages, vol. 59, 100972, pp. 1-19, DOI: 10.1016/j.cola.2020.100972.
- [17] Evin, E., Aydin, M. B. and **Kardas, G.** (2020) "[*Design and implementation of a CANBus-based eco-driving system for public transport bus services*](#)", IEEE Access, vol. 8, no. 1, pp. 8114-8128, DOI: 10.1109/ACCESS.2020.2964119.
- [18] Arslan, S. and **Kardas, G.** (2020) "[*DSML4DT: A domain-specific modeling language for device tree software*](#)", Computers in Industry, vol. 115, 103179, pp. 1-13, DOI: 10.1016/j.compind.2019.103179.
- [19] Aydin, M. B., Oz, C., Cetin Tulazoglu, D. and **Kardas, G.** (2019) "[*Development of an ITxPT compliant information system for public transportation vehicles*](#)", Journal of Intelligent Transportation Systems and Applications, vol. 2, no. 2, pp. 1-13.
- [20] Mascardi, V., Weyns, D., Ricci, A., Earle, C. B., Casals, A., Challenger, M., Chopra, A., Ciorte, A., Dennis, L. A., Diaz, A. F., El Fallah-Seghrouchni, A., Ferrando, A., Fredlund, L.-A., Giunchiglia, E., Guessoum, Z., Gunay, A., Hindriks, K., Iglesias, C. A., Logan, B., Kampik, T., **Kardas, G.**, Koeman, V. J., Larsen, J. B., Mayer, S., Mendez, T., Nieves, J. C., Seidita, V., Tezel, B. T., Varga, L. Z. and Winikoff, M. (2019) "[*Engineering multi-agent systems: state of affairs and the road ahead*](#)", ACM SIGSOFT Software Engineering Notes, vol. 44, no. 1, pp. 18-28, DOI: 10.1145/3310013.3322175.

- [21] **Kardas, G.**, Tezel, B. T. and Challenger, M. (2018) "[Domain-specific modelling language for belief-desire-intention software agents](#)", IET Software, vol. 12, no. 4, pp. 356-364, DOI: 10.1049/iet-sen.2017.0094.
- [22] Challenger, M., Tezel, B. T., Alaca, O. F., Tekinerdogan, B. and **Kardas, G.** (2018) "[Development of semantic web-enabled BDI multi-agent systems using SEA ML: an electronic bartering case study](#)", Applied Sciences, vol. 8, no. 5, pp. 1-32, DOI: 10.3390/app8050688.
- [23] **Kardas, G.** and Gomez-Sanz, J. J. (2017) "[Special issue on model-driven engineering of multi-agent systems in theory and practice](#)", Computer Languages, Systems & Structures, vol. 50, pp. 140-141, DOI: 10.1016/j.cl.2017.07.002 (Guest Editorial).
- [24] **Kardas, G.**, Bircan, E. and Challenger, M. (2017) "[Supporting the platform extensibility for the model-driven development of agent systems by the interoperability between domain-specific modeling languages of multi-agent systems](#)", Computer Science and Information Systems, vol. 14, no. 3, pp. 875-912, DOI: 10.2298/CSIS170113034K.
- [25] Challenger, M., **Kardas, G.** and Tekinerdogan, B. (2016) "[A systematic approach to evaluating domain-specific modeling language environments for multi-agent systems](#)", Software Quality Journal, vol. 24, no. 3, pp. 755-795, DOI: 10.1007/s11219-015-9291-5.
- [26] Challenger, M., Mernik, M., **Kardas, G.** and Kosar, T. (2016) "[Declarative specifications for the development of multi-agent systems](#)", Computer Standards & Interfaces, vol. 43, pp. 91-115, DOI: 10.1016/j.csi.2015.08.012.
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- [30] Teket, K. D., Sayit, M. and **Kardas, G.** (2014) "[Software agents for peer-to-peer video streaming](#)", IET Software, vol. 8, no. 4, pp. 184-192, DOI: 10.1049/iet-sen.2013.0181.
- [31] Saritas, H. B. and **Kardas, G.** (2014) "[A model driven architecture for the development of smart card software](#)", Computer Languages, Systems & Structures, vol. 40, no.2, pp. 53-72, DOI: 10.1016/j.cl.2014.02.001.
- [32] Challenger, M., Demirkol, S., Getir, S., Mernik, M., **Kardas, G.** and Kosar, T. (2014) "[On the use of a domain-specific modeling language in the development of multiagent systems](#)", Engineering Applications of Artificial Intelligence, vol. 28, pp. 111-141, DOI: 10.1016/j.engappai.2013.11.012.
- [33] **Kardas, G.** (2013) "[Model-driven development of multiagent systems: a survey and evaluation](#)", The Knowledge Engineering Review, vol. 28, Issue 4, pp. 479-503, DOI: 10.1017/S0269888913000088.
- [34] Demirkol, S., Challenger, M., Getir, S., Kosar, T., **Kardas, G.** and Mernik, M. (2013) "[A DSL for the development of software agents working within a semantic web environment](#)", Computer Science and Information Systems, vol. 10, no. 4, pp. 1525-1556, DOI: 10.2298/CSIS121105044D.
- [35] **Kardas, G.**, Challenger, M., Yildirim, S. and Yamuc, A. (2012) "[Design and implementation of a multiagent stock trading system](#)", Software: Practice and Experience, vol. 42, no. 10, pp. 1247-1273, DOI: 10.1002/spe.1137.
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Conference and Workshop Papers

- [1] Karaduman, B., Tezel, B. T., **Kardas, G.** and Challenger, M. (2024) "[DSML4JaCaMo: A Modelling tool for Multi-agent Programming with JaCaMo](#)", In proceedings of the 19th Conference on Computer Science and Intelligence Systems (FedCSIS 2024), Thematic Track on Model Driven Approaches in System Development, September 8-11, 2024, Belgrade, Serbia, IEEE (**accepted**).
- [2] Saritas, H. B. and **Kardas, G.** (2024) "[A Blockchain-based Transaction Verification Infrastructure in Public Transportation](#)", In proceedings of the 19th Conference on Computer Science and Intelligence Systems (FedCSIS 2024), Track on Software, System and Service Engineering, September 8-11, 2024, Belgrade, Serbia, IEEE (**accepted**).
- [3] Calis, B. G., **Kardas, G.** and Unalir, M. O. (2024) "[Implementation of a Machine Learning Aware Business Process Management](#)", 2. International Congress on New Searches in Sciences (ICONIL 2024), June 8-9, 2024, Istanbul, Turkiye, pp. 108-120 (in Turkish).
- [4] Celik, B., **Kardas, G.** and Tezel, B. T. (2023) "[An Online Modeling Language for the Low-code Development of Belief-Desire-Intention \(BDI\) Agents](#)", In proceedings of the 2nd International Symposium Series on Graduate Researches (ISGR 2023), November 30, 2023, Izmir, Turkey, pp. 186-196.
- [5] Cosgun, H., Kose, M., Sakarya, M. A., Oguz, K. and **Kardas, G.** (2023) "[Always Forward: Masomo Game Development Process](#)", In proceedings of the 16th Turkish National Software Engineering Symposium (UYMS 2022), February 27-March 1, 2023, Erzurum, Turkey, Ataturk University Press, no. 1360, pp. 242-248 (in Turkish).
- [6] Arslan, S. and **Kardas, G.** (2021) "[The Need for Model-driven Engineering in the Development of IoT Software for Public Transportation Systems](#)", In proceedings of the 15th Turkish National Software Engineering Symposium (UYMS 2021), November 17-19, 2021, Izmir, Turkey, IEEE, pp. 1-6, DOI: 10.1109/UYMS54260.2021.9659613 (in Turkish).
- [7] Yalcin, M. M., Karaduman, B., **Kardas, G.** and Challenger, M. (2021) "[An Agent-based Cyber-Physical Production System using Lego Technology](#)", In proceedings of the 16th Conference on Computer Science and Intelligence Systems (FedCSIS 2021), Track on Software, System and Service Engineering, Joint 41th IEEE Software Engineering Workshop (SEW 2021) and 8th International Workshop on Cyber-Physical Systems (IWCPs 2021), September 2-5, 2021, IEEE, pp. 521-531, DOI: 10.15439/2021F81.
- [8] Tepekule, M., Simsirli, E., Sakarya, M. A., Diriman, R. and **Kardas, G.** (2020) "[On the use of Spine Animation Library for the Game Software Development: An](#)

- Experience Report*, In proceedings of the 14th Turkish National Software Engineering Symposium (UYMS 2020), October 7-9, 2020, Istanbul, Turkey, IEEE, pp. 1-5, DOI: 10.1109/UYMS50627.2020.9247012 (in Turkish).
- [9] Silistre, A., Kilinceker, O., Belli, F., Challenger, M. and **Kardas, G.** (2020) "[Models in Graphical User Interface Testing: Study Design](#)", In proceedings of the 14th Turkish National Software Engineering Symposium (UYMS 2020), October 7-9, 2020, Istanbul, Turkey, IEEE, pp. 1-6, DOI: 10.1109/UYMS50627.2020.9247072.
- [10] Marah, H. M., Challenger, M. and **Kardas, G.** (2020) "[RE4TinyOS: A Reverse Engineering Methodology for the MDE of TinyOS Applications](#)", In proceedings of the 15th Conference on Computer Science and Information Systems (FedCSIS 2020), Track on Software and Systems Engineering, 6th Workshop on Model Driven Approaches in System Development (MDASD 2020), September 6-9, 2020, Sofia, Bulgaria, IEEE, pp. 741-757, DOI: 10.15439/2020F133.
- [11] Silistre, A., Kilinceker, O., Belli, F., Challenger, M. and **Kardas, G.** (2020) "[Community Detection in Model-based Testing to Address Scalability: Study Design](#)", In proceedings of the 15th Conference on Computer Science and Information Systems (FedCSIS 2020), Track on Software and Systems Engineering, Advances in Software and Systems Engineering (ASSE 2020), September 6-9, 2020, Sofia, Bulgaria, IEEE, pp. 657-660, DOI: 10.15439/2020F163.
- [12] Soleymanzadeh, K., Bul, Y., Bagci, S. and **Kardas, G.** (2019) "[A Tool for Modeling JsonLogic based Business Process Rules](#)", In proceedings of the 1st International Informatics and Software Engineering Conference (UBMYK 2019), November 6-7, 2019, Ankara, Turkey, IEEE Computer Society, pp. 263-267, DOI: 10.1109/UBMYK48245.2019.8965462.
- [13] Arslan, S., Dagdeviren, O. and **Kardas, G.** (2019) "[An IoT LDR Bulb Application with Android Things Operating System for Smart Cities](#)", In proceedings of 2019 Innovations in Intelligent Systems and Applications Conference (ASYU 2019), October 31-November 2, 2019, Izmir, Turkey, IEEE Computer Society, pp. 1-5, DOI: 10.1109/ASYU48272.2019.8946400.
- [14] Arslan, S., Dagdeviren, O. and **Kardas, G.** (2019) "[An Investigation on IoT-based Approaches for Street Lighting in Smart Cities](#)", In proceedings of 2019 International Design and Engineering Symposium (IDES 2019), October 10-12, 2019, Izmir, Turkey, pp. 338-343.
- [15] Arslan, S. and **Kardas, G.** (2019) "[Reverse Engineering Support for the Model-driven Development of Device Tree Software](#)", In proceedings of the 13th Turkish National Software Engineering Symposium (UYMS 2019), September 23-25, 2019, Izmir, Turkey, pp. 1-12 (in Turkish).
- [16] Miranda, T., Challenger, M., Tezel, B. T., Alaca, O. F., Barisic, A., Amaral, V., Goulao, M. and **Kardas, G.** (2019) "[Improving the Usability of a MAS DSML](#)", In proceedings of the 6th International Workshop on Engineering Multi-Agent Systems (EMAS 2018), held in conjunction with the 17th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2018), July 14, 2018, Stockholm, Sweden, Lecture Notes in Artificial Intelligence, vol. 11375, pp. 55-75, DOI: 10.1007/978-3-030-25693-7_4 (**best paper award**).
- [17] Tezel, B. T. and **Kardas, G.** (2019) "[A Conceptual Generic Framework to Debugging in the Domain-specific Modeling Languages for Multi-agent Systems](#)", In proceedings of the 8th Symposium on Languages, Applications and Technologies (SLATE 2019), Track on Human-Computer Languages, June 27-28, 2019, Coimbra, Portugal, OpenAccess Series in Informatics, vol. 74, pp. 8:1-8:13, DOI: 10.4230/OASlcs.SLATE.2019.8.
- [18] Durmaz, C., Yildirim, K. S. and **Kardas, G.** (2019) "[PureMEM: A Structured Programming Model for Transiently Powered Computers](#)", In proceedings of the 34th ACM SIGAPP Symposium on Applied Computing (SAC 2019), Technical Track on Programming Languages, April 8-12, 2019, Limassol, Cyprus, ACM Press, pp. 1544-1551, DOI: 10.1145/3297280.3299739.
- [19] Kucuk, H. and **Kardas, G.** (2018) "[A Reverse Engineering Methodology for the Development of Belief-Desire-Intention Agents](#)", In proceedings of the 7th Turkish Software Architecture Conference (UYMK 2018), November 29-30, 2018, Istanbul,

- Turkey, CEUR Workshop Proceedings, vol. 2291, pp. 219-234 (in Turkish).
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- [21] Tezel, B. T. and **Kardas, G.** (2018) "[Towards Providing Debugging in the Domain-Specific Modeling Languages for Software Agents](#)", In proceedings of the 2nd International Workshop on Debugging in Model-Driven Engineering (MDEbug 2018), held in conjunction with ACM/IEEE 21st International Conference on Model Driven Engineering Languages and Systems (MODELS 2018), October 16, 2018, Copenhagen, Denmark, CEUR Workshop Proceedings, vol. 2245, pp. 538-540.
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- [23] Firtina, U., Tezel, B. T., Challenger, M. and **Kardas, G.** (2018) "[Abstract and Concrete Syntaxes for Software Agent Environment Modeling in CArtAgO Infrastructure](#)", In proceedings of the 3rd International Conference on Computer Science and Engineering (UBMK 2018), September 20-23, 2018, Sarajevo, Bosnia and Herzegovina, pp. 622-626.
- [24] Arslan, S. and **Kardas, G.** (2018) "[Modeling Device Tree Software](#)", In proceedings of the 12th Turkish National Software Engineering Symposium (UYMS 2018), September 10-12, 2018, Istanbul, Turkey, CEUR Workshop Proceedings, vol. 2201, pp. 1-12 (in Turkish) (**best paper award**).
- [25] Tezel, B. T., Challenger, M. and **Kardas, G.** (2018) "[DSML4BDI: A Modeling Tool for BDI Agent Development](#)", In proceedings of the 12th Turkish National Software Engineering Symposium (UYMS 2018), September 10-12, 2018, Istanbul, Turkey, CEUR Workshop Proceedings, vol. 2201, pp. 1-8.
- [26] Akdal, B., Cabuk Keskin, Z. G., Ekinci, E. E. and **Kardas, G.** (2018) "[Model-driven Query Generation for Elasticsearch](#)", In proceedings of the 5th Workshop on Model Driven Approaches in System Development (MDASD 2018), held in conjunction with 2018 Federated Conference on Computer Science and Information Systems (FedCSIS 2018), September 9-12, 2018, Poznan, Poland, IEEE Conference Publications, pp. 853-862, DOI: 10.15439/2018F218.
- [27] Arslan, S., Tezel, B. T., Challenger, M. and **Kardas, G.** (2018) "[Design and Implementation of an Alarm System Software with Android Things Operating System](#)", In proceedings of the 2nd International Scientific and Vocational Studies Congress - Engineering and Natural Sciences (BILMES EN-NAT 2018), July 5-8, 2018, Nevsehir, Turkey, pp. 1215-1220 (in Turkish).
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- [29] Konaray, S. K., Aras, G., Akcekoce, H., Alaca, O. F., Challenger, M. and **Kardas, G.** (2017) "[Development of a Semantic Web based Activity Recommender Software](#)", In proceedings of the 11th Turkish National Software Engineering Symposium (UYMS 2017), October 18-20, 2017, Antalya, Turkey, CEUR Workshop Proceedings, vol. 1980, pp. 65-77 (in Turkish).
- [30] Cakmaz, Y. E., Alaca, O. F., Durmaz, C., Akdal, B., Tezel, B., Challenger, M. and **Kardas, G.** (2017) "[Engineering a BDI Agent-based Semantic e-Barter System](#)", In proceedings of the 2nd International Conference on Computer Science and Engineering (UBMK 2017), October 5-8, 2017, Antalya, Turkey, IEEE Conference

Publications, pp. 1072-1077, DOI: 10.1109/UBMK.2017.8093474.

- [31] Arslan, S., Turk, E. and **Kardas, G.** (2017) "[A Study on the Use of Device Tree Structures for Embedded Software Development](#)", In proceedings of the 2nd International Conference on Computer Science and Engineering (UBMK 2017), October 5-8, 2017, Antalya, Turkey, IEEE Conference Publications, pp. 882-887, DOI: 10.1109/UBMK.2017.8093472 (in Turkish).
- [32] Erata, F., Goknil, A., Tekinerdogan, B. and **Kardas, G.** (2017) "[A Tool for Automated Reasoning about Traces based on Configurable Formal Semantics](#)", In proceedings of the 11th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE 2017), September 4-8, 2017, Paderborn, Germany, ACM Press, pp. 959-963, DOI: 10.1145/3106237.3122825.
- [33] Durmaz, C., Challenger, M., Dagdeviren, O. and **Kardas, G.** (2017) "[Modelling Contiki-based IoT Systems](#)", In proceedings of the 6th Symposium on Languages, Applications and Technologies (SLATE 2017), Track on Human-Computer Languages, June 26-27, 2017, Vila do Conde, Portugal, OpenAccess Series in Informatics, vol. 56, pp. 5:1-5:13, DOI: 10.4230/OASlcs.SLATE.2017.5.
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Dissertation and Theses

- [1] **Kardas, G.** (2008) "[Model Driven Development of Semantic Web Enabled Multi-agent Systems](#)", Ph.D. Dissertation, Ege University, Turkey, 205 pages (in Turkish).
- [2] **Kardas, G.** (2003) "[Use of Smart Cards in Health Records](#)", M.Sc. Thesis, Ege University, Turkey, 249 pages (in Turkish).
- [3] **Kardas, G.**, Bara, G. and Demirezen, Z. (2001) "[A Web based Hotel Reservation System](#)", B.Sc. Thesis, Ege University, Turkey, 222 pages (in Turkish).

PROFESSIONAL ACTIVITIES

- Completed projects:
 - [1] "**AIToC: Artificial Intelligence supported Tool Chain in Manufacturing Engineering**", 01.10.2020 – 01.10.2023, European Union (EU) EUREKA Information Technology for European Advancement (ITEA) labelled research and development project including 34 project partners from Finland, France, Germany, Sweden and Turkey (ITEA project no: 19027) (worked as the consultant for the project partner Unit Information Technologies Research, Development and Automation Systems Co.) (This project is also supported by the Scientific and Technological Research Council of Turkey (TUBITAK) Technology and Innovation Funding Programs Directorate (TEYDEB) with project no: 9200078)
 - [2] "**BUMBLE: Blended Modelling for Enhanced Software and Systems Engineering**", 01.11.2019 – 01.05.2023, EU EUREKA ITEA labelled research and development project including 22 project partners from Austria, Netherlands, Sweden and Turkey (ITEA project no: 18006) (worked as the consultant for the project partner HERMES Communications Co.) (This project was also supported by TUBITAK TEYDEB with project no: 9190062)
 - [3] "**Fire**", 29.09.2020 – 29.12.2020, Aura Inc.'s industrial research and development project approved by Teknopark Izmir (BSTB project no: 50769) (worked as the consultant)
 - [4] "**SMARTBUS: Smart Integrated Solution for Public Transportation Bus Fleets**", 01.07.2018 – 30.06.2020, EU EUREKA Initiative for Packaging & Integration of μ Devices & Smart Electronic Systems (EURIPIDES) labelled research and development project including 2 project partners from Turkey and United Kingdom (EURIPIDES project no: 16-0601) (worked as the consultant for the project partner Kentkart Ege Electronics Automatic Fare Collection & Vehicle Tracking Systems Co.) (This project was also supported by TUBITAK TEYDEB)

with project no: 9180028)

- [5] **“AgentDSM-Eval: Developing a Framework on Evaluating Domain-specific Modeling Languages for Multi-agent Systems”**, 01.03.2017 – 01.03.2020, TUBITAK Academic Research Funding Program Directorate (ARDEB) Electrical, Electronics and Informatics Research Grant Committee (EEEAG) and the Portuguese Foundation for Science and Technology (FCT) funded bilateral research project (with project no: 115E591 and budget: ~\$91,000) (worked as the principal investigator) (**acceptance rate of the related bilateral project call: 6%**)
- [6] **“A Study on the Model-driven Development of Internet of Things Software based on Contiki Operating System”**, 03.07.2017 – 03.07.2019, Research project funded by the Scientific Research Projects (SRP) Directorate of Ege University (with project no: 17-UBE-002 and budget: ~\$7,600) (worked as the researcher)
- [7] **“Development of a SaaS Platform for Rule-based and Automatic Management of Business Processes”**, 01.05.2018 – 31.05.2019, HERMES Communications Co.’s industrial research and development project supported by TUBITAK TEYDEB (with project no: 7180424) (worked as the consultant)
- [8] **“Model-driven Development of Device Tree Software for Different Embedded System Platforms”**, 15.04.2018 – 15.04.2019, TUBITAK ARDEB-EEEAG funded research project (with project no: 117E553 and budget: ~\$5,000) (worked as the principal investigator)
- [9] **“ASSUME: Affordable Safe & Secure Mobility Evolution”**, 01.09.2015 – 31.12.2018, EU EUREKA ITEA labelled research and development project including 38 project partners from France, Germany, Netherlands, Sweden and Turkey (ITEA project no: 14014) (worked as the consultant for the project partner KocSistem Information Communication Services Inc.) (This project was also supported by TUBITAK TEYDEB with project no: 9150181)
- [10] **“Scalable and Robust Rule Engine”**, 29.05.2018 – 29.11.2018, Four Mobile Information Technologies Co.’s industrial research and development project approved by Ege Teknopark (BSTB project no: 50080) (worked as the consultant)
- [11] **“Supporting the Interoperability between Domain-specific Agent Modeling Languages with Horizontal Model Transformations”**, 01.06.2016 – 01.06.2018, Research project funded by SRP Directorate of Ege University (with project no: 16-UBE-001 and budget: ~\$13,200) (worked as the principal investigator)
- [12] **“Development of a Metamodel for Dexmo Software Platform”**, 01.11.2017 – 01.05.2018, Univera Computer Systems Co.’s industrial research and development project approved by Ege Teknopark (Project no: ARY2017-13) (worked as the consultant)
- [13] **“ModelWriter: Text & Model-Synchronized Document Engineering Platform”**, 01.10.2014 – 01.10.2017, EU EUREKA ITEA labelled research and development project including 9 project partners from France and Turkey (ITEA project no: 13028) (worked as the consultant for the project partner KocSistem Information Communication Services Inc.) (This project was also supported by TUBITAK TEYDEB with project no: 9140014)
- [14] **“Development of a CANBus-based Ecodriving System for Public Transport Bus Services”**, 01.07.2013 – 30.12.2014, Kentkart Ege Electronics Automatic Fare Collection & Vehicle Tracking Systems Co.’s industrial research and development project supported by TUBITAK TEYDEB (with project no: 3130609) (worked as the consultant)
- [15] **“Model Driven Development of Composite Content Applications”**, 01.09.2012 – 01.01.2014, KocSistem Information Communication Services Inc. and Unit Information Technologies Research, Development and Automation Systems Co.’s bilateral industrial research and development project supported by TUBITAK TEYDEB (with project no: 3110712) (worked as the consultant for the project partner Unit Information Technologies Research, Development and Automation Systems Co.)
- [16] **“Development of an Agent based Alternative Path Selection Method for**

- Peer-to-Peer Video Streaming Applications**", 01.10.2011 – 01.10.2013, TUBITAK ARDEB-EEEAG funded research project (with project no: 111E022 and budget: ~\$99,000) (**received TUBITAK Project Performance Award in 2018**) (worked as the principal investigator)
- [17] **"A Domain Specific Modeling Language for Semantic Web enabled Multi-agent Systems"**, 01.03.2010 – 01.03.2013, TUBITAK ARDEB-EEEAG and Slovenian Research Agency (ARRS) funded bilateral research project (with project no: 109E125 and budget: ~\$86,000) (**received TUBITAK Project Performance Award in 2017**) (worked as the principal investigator)
- [18] **"Assessment and Performance Measurement of Semantic Service Discovery Methods on Mobile Platforms"**, 01.11.2009 – 01.11.2012, Research project funded by SRP Directorate of Ege University (with project no: 2009/UBE/003 and budget: ~\$9,300) (worked as the principal investigator)
- [19] **"Model Driven Development of Ontology Based Multi-Agent Systems"**, 01.10.2008 – 01.10.2010, TUBITAK ARDEB-EEEAG funded research project (with project no: 108E141 and budget: ~\$90,000) (worked as the researcher)
- [20] **"The Implementation of the Semantic Web Service Architecture and Testing of the Architecture on a Mobile Platform"**, 01.07.2006 – 01.07.2008, TUBITAK ARDEB-EEEAG funded research project (with project no: 106E008 and budget: ~\$85,000) (worked as the researcher)
- [21] **"Development of the Bandwidth Measurement Techniques for Wireless Local Area Networks"**, 01.09.2005 – 01.09.2008, Research project funded by SRP Directorate of Ege University (with project no: 2005/UBE/001 and budget: ~\$16,000) (worked as the researcher)
- [22] **"Design and Implementation of a Secure Communication Platform with the Use of Smartcard Mobile Media Enabled Asymmetric Cryptography"**, 01.10.2004 – 04.07.2005, Research project funded by SRP Directorate of Ege University (with project no: 2004/UBE/001 and budget: ~\$12,500) (worked as the researcher)
- [23] **"OPC (OLE for Process Control) based Data Process Control System Development for TUPRAS (Turkish Petroleum Refineries Co.) Aliaga Petroleum Refinery"**, 16.02.2004 – 25.02.2005, Turkish Petroleum Refineries Co. (TUPRAS) and Ege University International Computer Institute's joint research project (worked as the researcher)
- [24] **"The Implementation of a Parallel Data Processing Platform on Linux based PC Clusters"**, 02.09.2002 – 26.10.2004, Research project funded by SRP Directorate of Ege University (with project no: 2002/UBE/001 and budget: ~\$19,000) (worked as the researcher)

▪ Industrial consultancies for the following corporations:

- [Masomo Gaming Ltd.](#) (since June 2020)
- [Unit Information Technologies Research, Development and Automation Systems Co.](#) (November 2012 – December 2013) (April 2021 – March 2023)
- [HERMES Communications Co.](#) (June 2018 – May 2019) (November 2019 – June 2020) (June 2021 – October 2022)
- [Univera Computer Systems Co.](#) (November 2017 – April 2018) (September 2021 – December 2021)
- [Aura Inc.](#) (September 2020 – December 2020)
- [Kentkart Ege Electronics Automatic Fare Collection & Vehicle Tracking Systems Co.](#) (December 2012 – December 2014) (November 2018 – July 2020)
- [KocSistem Information Communication Services Inc.](#) (May 2015 – December 2017) (May 2018 – April 2019)
- Four Mobile Information Technologies Co. (May 2018 – November 2018)

▪ Associate Editor of the following journals:

- [Computer Science and Information Systems](#) (since October 2022)
 - [Journal of Computer Languages](#) (since March 2021)
- Editorial board member of the following journals:
 - [Computer Science and Information Systems](#) (February 2022 – September 2022)
 - [Journal of Computer Languages](#) (January 2019 – February 2021)
 - [Computer Languages, Systems & Structures](#) (July 2017 – December 2018)
 - Computer Languages, Systems & Structures journal's special issue: "[Model-driven engineering of multi-agent systems in theory and practice](#)" (2017)
 - Guest co-editor of the following journal special issues:
 - "[Methods, Tools and Languages for Model-driven Engineering and Low-code Development](#)", Journal of Computer Languages (2023)
 - "[Model-driven engineering of multi-agent systems in theory and practice](#)", Computer Languages, Systems & Structures (2017)
 - Translated Book: Kurose, J. F. and Ross, K. W. (2024) "[Computer Networking: A Top-Down Approach \(Eighth Edition\)](#)", Translation Editors: Sayit, M, **Kardas, G.**, Atilgan, C. and Tezel, B. T., Palme Publishing, Ankara, Turkiye.
 - Invited lecturer: A series of invited lectures was given on the topic "Model-driven Engineering and Multi-agent Systems" at University of Maribor, Faculty of Electrical Engineering and Computer Science, Maribor, Slovenia in between November 19-25, 2017 (The visit was co-funded by the European Social Fund and the Republic of Slovenia, Ministry of Education, Science and Sport.).
 - Management committee substitute member of European Cooperation in Science & Technology (COST) Action IC1404: [Multi-Paradigm Modelling for Cyber-Physical Systems \(MPM4CPS\)](#)
 - Invited speaker at the panel "The Academy's Approach to Software Architecture and the Use of Software Architecture in the Industry", held in 7th Turkish Software Architecture Conference (UYMK 2018), November 30, 2018, Istanbul, Turkey.
 - Chapter reviewer for the following books:
 - [Multi-Paradigm Modelling Approaches for Cyber-Physical Systems](#), Bedir Tekinerdogan et al. (Eds.), Elsevier (2021)
 - [Formal and Practical Aspects of Domain-Specific Languages: Recent Developments](#), Marjan Mernik (Ed.), IGI Global (2013)
 - Reviewer for the following journals:
 - [Acta Electrotechnica et Informatica](#)
 - [Applied Computing and Informatics](#)
 - [Applied Soft Computing](#)
 - [Autonomous Agents and Multi-Agent Systems](#)
 - [Computer Languages, Systems & Structures](#)
 - [Computer Science and Information Systems](#)
 - [Computer Standards & Interfaces](#)
 - [Computer Systems Science & Engineering](#)
 - [Computers & Electrical Engineering](#)
 - [Computers & Industrial Engineering](#)

- [DUMF Journal of Engineering](#)
 - [Engineering Applications of Artificial Intelligence](#)
 - [Expert Systems with Applications](#)
 - [IEEE Access](#)
 - [IEEE Transactions on Knowledge and Data Engineering](#)
 - [IET Software](#)
 - [International Journal of Agent-Oriented Software Engineering](#)
 - [International Journal of Informatics Technologies](#)
 - [International Journal of Software Engineering and Knowledge Engineering](#)
 - [Journal of Aeronautics and Space Technologies](#)
 - [Journal of Computer Languages](#)
 - [Journal of Experimental & Theoretical Artificial Intelligence](#)
 - [Journal of Information Science](#)
 - [Journal of Software: Evolution and Process](#)
 - [Journal of Systems and Software](#)
 - [Journal of Visual Languages and Computing](#)
 - [Open Engineering](#)
 - [Pamukkale University Journal of Engineering Sciences](#)
 - [Science of Computer Programming](#)
 - [Software and Systems Modeling](#)
 - [Software Quality Journal](#)
 - [Swarm and Evolutionary Computation](#)
 - [Turkish Journal of Electrical Engineering & Computer Sciences](#)
- Program committee chairs:
 - Program committee chair of the [19th Conference on Computer Science and Intelligence Systems \(FedCSIS 2024\) Thematic Track on Advances in Programming Languages \(APL\)](#), September 8-11, 2024, Belgrade, Serbia
 - Program committee chair of [8th Workshop on Advances in Programming Languages \(WAPL 2023\)](#) held in the 18th Conference on Computer Science and Intelligence Systems (FedCSIS 2023), September 17-20, 2023, Warsaw, Poland
 - Track co-chair of [17th Conference on Computer Science and Intelligence Systems \(FedCSIS 2022\) Software, System and Service Engineering Track \(S3E\)](#), September 4-7, 2022, Sofia, Bulgaria
 - Track co-chair of [16th Conference on Computer Science and Intelligence Systems \(FedCSIS 2021\) Software, System and Service Engineering Track \(S3E\)](#), September 2-5, 2021
 - Program committee co-chair of [14th Turkish National Software Engineering Symposium \(UYMS 2020\)](#), October 7-9, 2020, Istanbul, Turkey
 - Track co-chair of [15th Conference on Computer Science and Intelligence Systems \(FedCSIS 2020\) Software and System Engineering Track \(SSE\)](#), September 6-9, 2020, Sofia, Bulgaria
 - Organizing committee memberships:
 - Doctoral and Master of Science Mentoring Program at 9th Turkish National Software Engineering Symposium (UYMS 2015), September 9-11, 2015, Izmir, Turkey
 - 15th Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN 2006), June 21-24, 2006, Akyaka, Mugla, Turkey

- Program committee memberships:
 - ACM SIGAPP Symposium on Applied Computing, Technical Track on Programming Languages: ACM SAC PL 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025
 - International Workshop on Human Factors in Modeling, held in conjunction with the ACM/IEEE International Conference on Model Driven Engineering Languages and Systems: ACM/IEEE MODELS HuFaMo 2015, 2016
 - International Workshop on Sensor Security, held in conjunction with International Conference on Availability, Reliability and Security: ARES IWSS 2009
 - International Conference on Distributed Computing and Artificial Intelligence: DCAI 2019, 2020, 2021, 2022, 2023
 - International Conference on Distributed Computing and Artificial Intelligence, Special Session on Social Modelling of Ambient Intelligence in Large Facilities: DCAI SMAILF 2018
 - European Conference on Software Architecture, Industry Program: ECSA 2023
 - International Workshop on DSL Architecting and DSL-based Architectures, held in conjunction with the European Conference on Software Architecture: ECSA DADA 2014
 - International Conference on Evaluation of Novel Approaches to Software Engineering: ENASE 2022, 2023
 - Workshop on Advances in Software and Systems Engineering held in the Conference on Computer Science and Intelligence Systems: FedCSIS ASSE 2020
 - Workshop on Computer Aspects of Numerical Algorithms, held in the Conference on Computer Science and Intelligence Systems: FedCSIS CANA 2023
 - Workshop on Model Driven Approaches in System Development, held in the Conference on Computer Science and Intelligence Systems: FedCSIS MDASD 2012, 2014, 2016, 2018, 2020, 2022, 2024
 - Software, System and Service Engineering Track in the Conference on Computer Science and Intelligence Systems: FedCSIS S3E 2021, 2022
 - Joint IEEE Software Engineering Workshop and International Workshop on Cyber-Physical Systems, held in the Conference on Computer Science and Intelligence Systems: FedCSIS SEW & IWCPSS 2021
 - Workshop on Advances in Programming Languages, held in the Conference on Computer Science and Intelligence Systems: FedCSIS WAPL 2013, 2015, 2017, 2019, 2021
 - International Conference on Agents and Artificial Intelligence: ICAART 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023
 - Workshop on Multidisciplinary Approaches to Co-Creating Trustworthy Autonomous Systems in IEEE International Conference on Robotics and Automation: ICRA MACTAS 2023
 - International Conference on the Quality of Information and Communications Technology, Thematic Track on Model Driven Engineering: QUATIC MDE 2014, 2016, 2018, 2019, 2020, 2021
 - Software Engineering Doctoral Symposium, co-located with the International Conference on the Quality of Information and Communications Technology: QUATIC SEDES 2021
 - Symposium on Languages, Applications and Technologies, Track on Human-Computer Languages: SLATE 2016, 2017, 2020, 2021
 - Turkish Workshop on Model-Driven Software Development: TMODELS 2010
 - Turkish Software Architecture Conference: UYMK 2010, 2012, 2014, 2016,

2018, 2020

- Turkish National Software Engineering Symposium: UYMS 2009, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022
- Administrative duties:
 - Vice Director of Ege University International Computer Institute (*since January 2017*)
 - Member of Ege University International Computer Institute Directorate Board (*since September 2009*)
 - Member of Ege University International Computer Institute Academic Assessment and Quality Improvement Committee (*since December 2009*)
 - Member of Ege University International Computer Institute SRP Committee (*since September 2017*)
 - Member of Ege University International Computer Institute Academic Encouragement Application Pre-Assessment Committee (January 2016 – December 2020) (*since December 2022*)
- Member of Association for Computing Machinery (ACM)
- Panelist in the evaluation meetings of the research project proposals submitted to TUBITAK ARDEB-EEEAG
- External consultant for the research project proposals submitted to TUBITAK ARDEB-EEEAG
- Consultant for the research projects supported by TUBITAK ARDEB-EEEAG
- Referee for the assessment of the industrial research & development (R&D) project proposals submitted to TUBITAK TEYDEB
- Inspector for the industrial R&D projects supported by TUBITAK TEYDEB
- Referee for the assessment of the entrepreneurs' business ideas submitted to TUBITAK TEYDEB
- Concept advisor for Science Center Support Programme of TUBITAK Science and Society Department (BTDB)
- External consultant for the undergraduate national/international research project proposals submitted to TUBITAK Science Fellowships and Grant Programmes Department (BIDEB)
- Jury member for TUBITAK BIDEB undergraduate / graduate thesis contests
- External consultant for the industry-focused undergraduate research project proposals submitted to TUBITAK BIDEB
- Panelist in the evaluation meeting of the research scholarship applications submitted for the International Research Fellowship Programme of TUBITAK BIDEB
- Field committee member for the Technology Development Foundation of Turkey (TTGV)

- Committee member for the assessment of R&D center applications submitted to the Republic of Turkey - Ministry of Industry and Technology
- Committee member for the inspection of the R&D centers supported by the Republic of Turkey - Ministry of Industry and Technology
- Referee for the assessment of R&D center applications submitted to the Republic of Turkey - Ministry of Industry and Technology
- Inspector for the R&D centers supported by the Republic of Turkey - Ministry of Industry and Technology
- Committee member for the assessment of applications submitted to the Tech-entrepreneur Programme of the Republic of Turkey - Ministry of Industry and Technology
- Referee for the assessment of the industrial R&D project proposals submitted to the Small and Medium Industry Development Organization (KOSGEB) of the Republic of Turkey - Ministry of Industry and Technology
- Inspector for the industrial R&D projects supported by KOSGEB of the Republic of Turkey - Ministry of Industry and Technology
- Expert witness for the Republic of Turkey – Ministry of Justice
- Referee for the assessment of the projects submitted to various technology development zones or technoparks
- Referee for the assessment of the projects submitted to / funded by the scientific research projects directorates of various universities
- Jury member for the assessment of the rank of Associate Professorship applications to the Republic of Turkey - Inter-University Council (ÜAK)
- Jury member for the assessment of faculty member applications to various universities
- Jury member for the assessment of the M.Sc. Thesis submitted to the IEEE Computer Society Türkiye Chapter 2024 M.Sc. Thesis Competition
- Jury member for the assessment of the projects submitted to the series of R&D and Innovation Project Contest organized by Antalya Organized Industrial Zone
- Jury member for the assessment of the computer science undergraduate students' projects submitted to the series of Young Brains New Ideas Project Contest
- Jury member for the assessment of the projects submitted to the 2012 Inter-High School Science and Engineering Project Contest organized by Izmir University of Economics and Republic of Turkey – Ministry of National Education

WORK EXPERIENCE

Professor

since April 2023 Ege University International Computer Institute, Izmir, TURKEY

- Courses taught: “Multi-agent Systems”, “Object-oriented Programming”, “Data Structures and Algorithms” and “Programming Languages”

Consultant (Part-time)

since June 2020 Masomo Gaming Ltd., Izmir, TURKEY

- Participating mainly in the improvement of the applied software methodologies in the company with the state-of-the-art techniques as well as guiding the production and the dissemination of the scientific assets achieved from the R&D activities of the company

Associate Professor

March 2016 – March 2023 Ege University International Computer Institute, Izmir, TURKEY

- Principal investigator of one international project funded by TUBITAK and FCT. Principal investigator of two national R&D projects funded by TUBITAK and Ege University, respectively. Researcher in one R&D project funded by Ege University.
- Authored / co-authored more than 80 peer-reviewed papers
- Courses taught: “Multi-agent Systems”, “Object-oriented Programming”, “Data Structures and Algorithms” and “Programming Languages”

Consultant (Part-time)

April 2021 – March 2023 Unit Information Technologies Research, Development and Automation Systems Co., Izmir, TURKEY

- Participated mainly in EU EUREKA ITEA labelled and TUBITAK TEYDEB funded R&D project: “AIToC: Artificial Intelligence supported Tool Chain in Manufacturing Engineering”

Consultant (Part-time)

June 2021 – October 2022 HERMES Communications Co., Izmir, TURKEY

- Participated mainly in EU EUREKA ITEA labelled and TUBITAK TEYDEB funded R&D project: “BUMBLE: Blended Modelling for Enhanced Software and Systems Engineering”

Consultant (Part-time)

September 2021 – December 2021 Univera Computer Systems Co., Izmir, TURKEY

- Participated mainly in the assessment of the document responsibility collaboration modelling methodology applied in the company and the production of the scientific assets achieved from the related assessment study

Consultant (Part-time)

September 2020 – December 2020 Aura Inc., Izmir, TURKEY

- Participated in the Teknopark Izmir approved R&D project: “Fire”

Consultant (Part-time)

November 2019 – June 2020 HERMES Communications Co., Izmir, TURKEY

- Participated mainly in the creation of low code platforms for the business process management software of the company

Consultant (Part-time)

November 2018 – June 2020 Kentkart Ege Electronics Automatic Fare Collection & Vehicle Tracking Systems Co., Izmir, TURKEY

- Participated mainly in EU EUREKA EURIPIDES labelled and TUBITAK TEYDEB funded R&D project: “SMARTBUS: Smart Integrated Solution for Public Transportation Bus Fleets”

Consultant (Part-time)

June 2018 – May 2019 HERMES Communications Co., Izmir, TURKEY

- Participated mainly in the TUBITAK TEYDEB funded R&D project: “Development of a SaaS Platform for Rule-based and Automatic Management of Business Processes”

Consultant (Part-time)

May 2018 – April 2019 KocSistem Information Communication Services Inc.,
Istanbul, TURKEY

- Participated mainly in the EU EUREKA ITEA labelled and TUBITAK TEYDEB funded R&D project: “ASSUME: Affordable Safe & Secure Mobility Evolution”

Consultant (Part-time)

May 2018 – November 2018 Four Mobile Information Technologies Co., Izmir,
TURKEY

- Participated mainly in the R&D project: “Scalable and Robust Rule Engine”

Consultant (Part-time)

November 2017 – April 2018 Univera Computer Systems Co., Izmir, TURKEY

- Participated mainly in the R&D project: “Development of a Metamodel for Dexmo Software Platform”

Consultant (Part-time)

May 2015 – December 2017 KocSistem Information Communication Services Inc.,
Istanbul, TURKEY

- Participated mainly in the EU EUREKA ITEA labelled and TUBITAK TEYDEB funded R&D project: “ModelWriter: Text & Model-Synchronized Document Engineering Platform”

Consultant (Part-time)

December 2012 – December 2014 Kentkart Ege Electronics Automatic Fare
Collection & Vehicle Tracking Systems Co., Izmir, TURKEY

- Participated mainly in the TUBITAK TEYDEB funded R&D project: “Development of a CANBus-based Ecodriving System for Public Transport Bus Services”

Consultant (Part-time)

November 2012 – December 2013 Unit Information Technologies Research,
Development and Automation Systems Co., Izmir, TURKEY

- Participated mainly in the TUBITAK TEYDEB funded R&D project: “Model Driven Development of Composite Content Applications”

Assistant Professor

June 2009 – February 2016 Ege University International Computer Institute, Izmir,
TURKEY

- Principal investigator of one international project funded by TUBITAK and ARRS. Principal investigator of two national R&D projects funded by TUBITAK and Ege University, respectively. Researcher in one R&D project funded by TUBITAK.
- Authored / co-authored more than 30 peer-reviewed papers
- Courses taught: “Multi-agent Systems”, “Service-oriented Computing”, “Object-oriented Programming”, “Data Structures and Algorithms” and “Programming Languages”

Research Assistant

June 2004 – June 2009 Ege University International Computer Institute, Izmir,
TURKEY

- Researcher in one R&D project funded by TUBITAK and three R&D projects funded by Ege University.
- Authored / co-authored more than 20 peer-reviewed papers
- Assisted courses: “Object Oriented Programming”, “Advanced Programming with Java”, “Information Systems”, “Parallel Programming”, “Distributed Systems” and “Advanced Computer Architecture”

Research Assistant

December 2001 – August 2003 Ege University International Computer Institute, Izmir, TURKEY

- Assisted courses: “Operating Systems”, “Data Structures” and “Information Systems”

Software Developer (Part-time)

November 2000 – March 2001 Tema Computer Inc., Izmir, TURKEY

- Participated mainly in design and implementation of commercial web sites

EDUCATION

September 2003 – July 2008 Ph.D. in Information Technologies, Ege University Graduate School of Natural and Applied Sciences, Izmir, TURKEY

- GPA: 93.86 / 100
- *Graduate Dissertation:* Model Driven Development of Semantic Web Enabled Multi-agent Systems
 - Introducing a new reference software architecture for Semantic Web enabled Multi-agent Systems (MASs)
 - Definition of a platform independent MAS metamodel in which agent and semantic web service interactions are especially considered
 - Introducing a model driven agent software development process in which both model to model (M2M) and model to text (M2T) transformation steps are included
 - Evaluation of the proposed M2M and M2T transformations by considering development of real MAS applications for two different MAS software frameworks
 - Thesis (written in Turkish) can be found at:
<http://ube.ege.edu.tr/~kardas/resources/DoktoraTezi.pdf>

September 2001 – August 2003 M.Sc. in Information Technologies, Ege University Graduate School of Natural and Applied Sciences, Izmir, TURKEY

- GPA: 88.13 / 100
- *Graduate Thesis:* Use of Smart Cards in Health Records
 - Design and implementation of a healthcare information system architecture based on smart card technology
 - Design and implementation of a distributed object protocol in which smart cards participate in data transmission, data security and system authentication tasks
 - Use of JavaCard and Java RMI technologies in implementation
 - More information can be available at: <http://ube.ege.edu.tr/~kardas/master>

September 1997 – August 2001 B.Sc. in Computer Engineering, Ege University Computer Engineering Department, Izmir, TURKEY

- GPA: 80.95 / 100
- *Graduate Thesis :* A Web Based Hotel Reservation System
 - Development of an n-tier client / server application using Model-View-Controller architectural pattern
 - E-business application approach and object oriented system analysis and design
 - System implementation by using Java Servlet, JSP, Java Bean, Java Mail technologies, concurrent multi-thread architecture and Oracle database

September 1994 – February 1997 High School, Bornova Anatolian High School,

Izmir, TURKEY

- GPA: 4.55 / 5
- Education Language: English Branch In High School: Science

**AWARDS,
GRANTS and
SCHOLASTIC
ACHIEVEMENTS**

(2015) The rank of Associate Professor in Computer-Information Science and Engineering field, achieved from the Republic of Turkey - ÜAK

Awards:

- (2024) TUBITAK Turkish Academic Network and Information Centre (ULAKBIM) International Scientific Publication Promotion
- (2023) TUBITAK ULAKBIM International Scientific Publication Promotion (for 3 publications)
- (2022) “2021 Best Paper Award Runner-up” of Elsevier Science Publisher B.V.’s Journal of Computer Languages
- (2021) TUBITAK ULAKBIM International Scientific Publication Promotion
- (2021) “Excellence Award”, awarded by Ege University in recognition of being one of the most successful academics at Ege University in 2020
- (2020) TUBITAK ULAKBIM International Scientific Publication Promotion
- (2020) “Excellence Award”, awarded by Elsevier Science Publisher B.V.’s Journal of Computer Languages in recognition of the significant contributions made to the quality of the journal
- (2018) “Best Paper Award” in the Software Modeling Track of the 12th Turkish National Software Engineering Symposium (UYMS 2018)
- (2018) “Best Paper Award” in the the 6th International Workshop on Engineering Multi-Agent Systems (EMAS 2018), held in conjunction with the 17th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2018)
- (2018) TUBITAK Project Performance Award
- (2017) TUBITAK Project Performance Award
- (2017) TUBITAK ULAKBIM International Scientific Publication Promotion (for 2 publications)
- (2016) “Excellence Award”, awarded by Elsevier Science Publisher B.V.’s Computer Languages, Systems & Structures journal in recognition of the significant contributions made to the quality of the journal
- (2016) Ege University Science and Technology Center (EBILTEM) Project Application Award
- (2015) TUBITAK ULAKBIM International Scientific Publication Promotion
- (2015) EBILTEM Publication Award
- (2014) TUBITAK ULAKBIM International Scientific Publication Promotion (for 4 publications)
- (2014) EBILTEM Publication Award (for 4 publications)
- (2009) TUBITAK ULAKBIM International Scientific Publication Promotion
- (2008) EBILTEM Publication Award
- (2007) TUBITAK ULAKBIM International Scientific Publication Promotion (for 3 publications)
- (2007) EBILTEM Publication Award (for 4 publications)
- (2006) TUBITAK International Scientific Publication Promotion
- (2006) EBILTEM Publication Award (for 6 publications)

Grants:

- For project / research grants, please refer to [professional activities](#) section.
- (2007) EBILTEM Grant for participating in Fifth German conference on Multi-Agent

System Technologies (MATES 2007) Leipzig, Germany

- (2007) TUBITAK BIDEB Grant for participating in Fifth German conference on Multi-Agent System Technologies (MATES 2007) Leipzig, Germany
- (2006) TUBITAK BIDEB Grant for participating in Net.ObjectDays 2006, Erfurt, Germany

Scholarship:

- (2006) TUBITAK BIDEB Ph.D. Scholarship (for 4 years)

Other Achievements:

- Co-authored article, called “A model driven architecture for the development of smart card software”, was ranked 2nd on Elsevier Science Publisher B.V.’s ScienceDirect Top 25 List of Most Downloaded Articles for “Computer Languages, Systems & Structures” journal during the entire year 2014.
- Co-authored article, called “Design and implementation of a smart card based healthcare information system”, was ranked 2nd on Elsevier Science Publisher B.V.’s ScienceDirect Top 25 List of Most Downloaded Articles for “Computer Methods and Programs in Biomedicine” journal between January to March 2006.

STUDENTS

Graduated Ph.D. Students:

[1] Sadik Arslan Ph.D., 2024

Dissertation Title: Model-driven Round-trip Engineering of IoT-based Public Transportation Systems

Position after graduation: Automotive Embedded Software Team Leader at Vestel Mobilite Co., Türkiye

[2] Caglar Durmaz Ph.D., 2022

Dissertation Title: A Programming Language and Virtual Machine for Developing Intermittently Powered Systems

Position after graduation: Founder and Manager at Integra Data and Communication Technologies Co., Turkey

[3] Baris Tekin Tezel, Ph.D., 2020

Dissertation Title: Debugging for the Domain-specific Modelling Languages of Software Agents

Position after graduation: Assistant Professor at Computer Science Department, Dokuz Eylul University, Turkey

[4] Moharram Challenger, Ph.D., 2016

Dissertation Title: A Domain-specific Modeling Language for Semantic Web enabled Multi-agent Systems

Position after graduation: Postdoc researcher at Information Technology Group, Wageningen University, the Netherlands

R&D Director of Unit Information Technologies Research, Development and Automation Systems Co., Turkey

Graduated M.Sc. Students:

[1] Behiye Gizem Calis, M.Sc., 2024

Thesis Title: Implementation of a Machine Learning Aware Business Process Management

Position after graduation: Operational Excellence Deputy General Manager at Ekoten Textile Inc., Türkiye

[2] Burak Celik, M.Sc., 2024

- Thesis Title:* An Online Modeling Language for the Low-code Development of Belief-Desire-Intention (BDI) Agents
Position after graduation: Software Engineer at Garanti BBVA Technology Co., Türkiye
- [3] Fahri Berkay Ercan, M.Sc., 2024
Thesis Title: A Low-code Development Platform for Embedded System Drivers and Modules
Position after graduation: Embedded System Engineer at CrossControl Co., Finland
- [4] Cagatay Sahin, M.Sc., 2022
Thesis Title: A Comparative Evaluation of Using ASP.NET and Node.js Technologies for Enterprise Web Application Development
Position after graduation: Software Development Senior Manager at Veripark Yazilim Co., Turkey
- [5] Alper Silistre, M.Sc., 2021
Thesis Title: An End-to-End Scalable Approach for Model-based Graphical User Interface Testing
Position after graduation: Software Engineer at Portera Co., the Netherlands
- [6] Tansu Zafer Asici, M.Sc., 2020
Thesis Title: On the Use of the Analytic Hierarchy Process in the Evaluation of Domain-specific Modeling Languages for Multi-agent Systems
Position after graduation: Software Developer at Unipa Co., Turkey
- [7] Hussein Masoud Marah, M.Sc., 2020
Thesis Title: A Model-driven Round-trip Engineering Methodology for TinyOS Applications
Position after graduation: Ph.D. Student at Johannes Kepler Universitat Linz, Austria
- [8] Mustafa Abshir Mohamed, M.Sc., 2020
Thesis Title: Model-driven Engineering of Cyber-Physical Systems Software: A Systematic Literature Review
Position after graduation: Independent Researcher and Software Developer at SomDigital Co., Somalia
- [9] Ufuk Firtina, M.Sc., 2020
Thesis Title: Extending DSML4BDI Language with JaCaMo Platform
Position after graduation: Business Analyst at Vakifbank Asset Management Co., Turkey
- [10] Egemen Evin, M.Sc., 2019
Thesis Title: Design and Implementation of a Software for the Assessment of Eco-Driving Performances of Public Transport Drivers
Position after graduation: Software Developer at MEX International Group Co., Turkey
- [11] Omer Faruk Alaca, M.Sc., 2019
Thesis Title: A Tool Supporting the Systematic Evaluation of Domain-Specific Modeling Languages for Multi-Agent Systems
Position after graduation: Software Engineer at Kron Information Technology and Services Co., Turkey
- [12] Huseyin Kucuk, M.Sc., 2019
Thesis Title: A Reverse Engineering Methodology for the Development of Belief-Desire-Intention Agents
Position after graduation: Software Developer at Masomo Gaming Co., Turkey
- [13] Berkay Akdal, M.Sc., 2018
Thesis Title: A Domain-specific Language for the Model-driven Analytics of Logistics Data
Position after graduation: Software Developer at Galaksiya Information Technologies

- Co., Turkey
- [14] Sadik Arslan, M.Sc., 2018
Thesis Title: Model-driven Development of Device Tree Software
Position after graduation: Electronic Engineer at Kentkart Ege Electronics Automatic Fare Collection & Vehicle Tracking Systems Co., Turkey
- [15] Emine Bircan, M.Sc., 2017
Thesis Title: Horizontal Transformations between Platform Independent Metamodels of Software Agents
Position after graduation: Computer Engineer at TUBITAK National Research Institute of Electronics and Cryptology (UEKAE), Turkey
- [16] Miray Tosun, M.Sc., 2015
Thesis Title: A Methodology for the Automatic Generation of JavaCard Software
Position after graduation: Software Engineer at the R&D Center of OBASE Computer and Consultancy Co., Turkey
- [17] Kemal Deniz Teket, M.Sc., 2013
Thesis Title: Agent-based Parent Selection in Peer-to-Peer Mesh-based Video Streaming Systems
Position after graduation: Ph.D. Student at Laboratoire d'Informatique en Image et Systèmes d'information (LIRIS), Institut national des sciences Appliquées de Lyon (INSA Lyon), France
- [18] Orcun Yildirim, M.Sc., 2012
Thesis Title: A Mobile Agent-based Decision Support System for Cement Industry
Position after graduation: Industrial Engineer at Cimentas Group, Turkey
- [19] Sinem Getir, M.Sc., 2012
Thesis Title: Semantics of a Domain-specific Modeling Language for Semantic Web enabled Multi-agent Systems
Position after graduation: Ph.D. Student at Institute of Software Technology, Universität Stuttgart, Germany
- [20] Suleyman Yildirim, M.Sc., 2012
Thesis Title: An Agent Architecture for Peer-to-Peer Live Video Streaming Applications
Position after graduation: Post-M.Sc. Software Designer Trainee at 3TU.School for Technological Design, Stan Ackermans Institute, Eindhoven University of Technology, the Netherlands
- [21] Sebla Demirkol, M.Sc., 2012
Thesis Title: Syntax of a Domain-specific Modeling Language for Semantic Web enabled Multi-agent Systems
Position after graduation: Software Developer at Veripark Co., Turkey
- [22] Hidayet Burak Saritas, M.Sc., 2011
Thesis Title: Model-based Engineering for the Development of Smart Card Software
Position after graduation: Software Developer at Kentkart Ege Electronics Automatic Fare Collection & Vehicle Tracking Systems Co., Turkey
- [23] Ferhat Erata, M.Sc., 2010
Thesis Title: A Platform-specific Metamodel for Developing Web-based Systems
Position after graduation: Co-founder and president of Unit Information Technologies Research, Development and Automation Systems Co., Turkey

Graduated M.Sc. Non-Thesis Students:

- [1] Selime Saglam, M.Sc., 2024
Graduation Project Title: An Investigation on the Model Execution Feature of Eclipse Papyrus Modeling Environment

- Position after graduation:* Software Developer at TUBITAK BILGEM, Turkey
- [2] Petek Savas Hamitbeyli, M.Sc., 2022
Graduation Project Title: Development of an E-Commerce Application using the MERN Stack
Position after graduation: Frontend Developer at Ithinka Information Technologies Co., Turkey
- [3] Ferec Hamitbeyli, M.Sc., 2022
Graduation Project Title: Design and Implementation of a Running Analysis Application on Android Operating System using Kotlin Programming Language
Position after graduation: Mobile Application Developer at PATH Product and Software Development House Co., Turkey
- [4] Onur Yildirim, M.Sc., 2022
Graduation Project Title: Design and Implementation of an iOS-based Mobile Conference Management System using Swift Programming Language
Position after graduation: Game Developer at Tiplay Studio Co., Turkey
- [5] Gokmen Balkan, M.Sc., 2018
Graduation Project Title: Applying Design Patterns to Procedural Generation of Levels in Role Playing Games
Position after graduation: Software Developer at Univera Co. R&D Center, Turkey
- [6] Hamit Unugur, M.Sc., 2014
Graduation Project Title: Assessment of the Semantic Service Discovery Methods on Mobile Platforms
Position after graduation: Software Developer at MAN Turkey Co., Turkey
- [7] Ozge Ozkaya, M.Sc., 2013
Graduation Project Title: A Study on the RESTful Web Services
Position after graduation: Responsible of Ege University International Computer Institute's PC Laboratory, Turkey
- [8] Dincer Can, M.Sc., 2013
Graduation Project Title: A Software that Records and Displays Optical Disc Contents
Position after graduation: Information Technology Teacher at the Republic of Turkey - Ministry of National Education, Turkey

PERSONAL INFORMATION

Nationality: Republic of Turkey
Birth Date: June 18,1979
Marital Status: Married
Foreign Language: English

REFERENCES

Available upon request