CURRENT RESEARCH INTERESTS

- Agent-oriented Software Engineering
- Model-driven development of software systems
- Domain-specific (modeling) languages (DSLs / DSMLs)
- Semantic Web and Semantic Web Services
- Software development processes and methodologies

PUBLICATIONS

Journal Articles


Workshop Papers


Scientific and Technological Research Council of Turkey (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) (working as the principal investigator) (acceptance rate of the related bilateral project call: 6%)

[2] “SMARTBUS: Smart Integrated Solution for Public Transportation Bus Fleets”, 01.07.2018 – 30.06.2020, European Union (EU) EUREKA Initiative for Packaging & Integration of µDevices & Smart Electronic Systems (EURIPIDES) labelled research and development project including 2 project partners from Turkey and United Kingdom (EURIPIDES project no: 16-0601) (working as the consultant for the project partner Kentkart Ege Electronics Automatic Fare Collection & Vehicle Tracking Systems Co.) (This project was also supported by TUBITAK Technology and Innovation Funding Programs Directorate (TEYDEB) with project no: 9180028)


- Completed projects:

[1] “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)


[3] “ASSUME: Affordable Safe & Secure Mobility Evolution”, 01.09.2015 – 31.12.2018, EU EUREKA Information Technology for European Advancement (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)

[4] “Scalable and Robust Rule Engine”, 29.05.2018 – 29.11.2018, Four Mobile Information Technologies Co.’s industrial research and development project (worked as the consultant)

[5] “Supporting the Interoperability between Domain-specific Agent Modeling Languages with Horizontal Model Transformations”, 01.06.2016 – 01.06.2018, Research project funded by the Scientific Research Projects Directorate of Ege University (with project no: 16-UBE-001 and budget: ~$13,200) (worked as the principal investigator)

[6] “Development of a Metamodel for Dexmo Software Platform”, 01.11.2017 – 01.05.2018, Univera Computer Systems Co.’s industrial research and development project (worked as the consultant)

[7] “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)

(worked as the consultant)

[9] “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)

[10] “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)

[11] “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)


[13] “Model Driven Development of Ontology Based Multi-Agent Systems”, 01.10.2008 – 01.10.2010, TUBITAK ARDEB-EEEAG funded research project (with project no: 106E141 and budget: ~$90,000) (worked as the researcher)


[17] “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)


- Industrial consultancies for the following corporations:
  - Kentkart Ege Electronics Automatic Fare Collection & Vehicle Tracking Systems Co. (December 2012 – December 2014) (since November 2018)
  - HERMES Communications Co. (June 2018 – May 2019)
  - Four Mobile Information Technologies Co. (May 2018 – November 2018)
  - Univera Computer Systems Co. (November 2017 – April 2018)
  - Unit Information Technologies Research, Development and Automation Systems
Editorial board member for the following journals:
- Journal of Computer Languages (since January 2019)
- Computer Languages, Systems & Structures (July 2017 – December 2018)


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.


Reviewer for the following journals:
- Acta Electrotechnica et Informatica
- Applied Computing and Informatics
- Applied Soft Computing
- Computers & Industrial Engineering
- Computer Languages, Systems & Structures
- Computer Science and Information Systems
- Computer Standards & Interfaces
- Computer Systems Science & Engineering
- DUMF Journal of Engineering
- Engineering Applications of Artificial Intelligence
- 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 Computer Languages
- Journal of Experimental & Theoretical Artificial Intelligence
- Journal of Software: Evolution and Process
- Journal of Visual Languages and Computing
- Pamukkale University Journal of Engineering Sciences
- Science of Computer Programming
- Software Quality Journal
- Turkish Journal of Electrical Engineering & Computer Sciences

- 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 (TAIINN 2006), June 21-24, 2006, Akyaka, Mugla, Turkey

- Program committee memberships:
  - 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
  - International Conference on Distributed Computing and Artificial Intelligence, Special Session on Social Modelling of Ambient Intelligence in Large Facilities: DCAI SMAILF 2018
  - International Workshop on DSL Architecting and DSL-based Architectures, held in conjunction with the 8th European Conference on Software Architecture: ECSA DADA 2014
  - Workshop on Advances in Programming Languages, held in conjunction with Federated Conference on Computer Science and Information Systems: FedCSIS WAPL 2013, 2015, 2017, 2019
  - International Conference on the Quality of Information and Communications Technology, Thematic Track on Quality Aspects in Model Driven Engineering: QUATIC QMDE 2014, 2016, 2018, 2019
  - Symposium on Languages, Applications and Technologies, Track on Human-Computer Languages: SLATE 2016, 2017
  - Turkish Workshop on Model-Driven Software Development: TMODELS 2010

- 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 Academic Encouragement Application Pre-Assessment Committee *(since January 2016)*
• Member of Ege University International Computer Institute Scientific Research Projects Committee *(since September 2017)*

- 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
- 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 Techo-entrepreneur Programme of the Republic of Turkey - Ministry of Industry and Technology
- Referee for the assessment of the projects funded by the Scientific Research Projects Directorate of Ege University
- Jury member for the assessment of faculty member applications
- Jury member for the assessment of the projects submitted to 2018 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

**Associate Professor**
since March 2016  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 November 2018  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)**
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)**
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 – 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)**
- 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

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

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

**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](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](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 - Inter-University Council (ÜAK)

**Awards:**

- (2018) TUBITAK Project Performance Award
- (2017) TUBITAK Project Performance Award
- (2017) TUBITAK Turkish Academic Network and Information Centre (ULKABIM) 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 ULKABIM International Scientific Publication Promotion
- (2015) EBILTEM Publication Award
- (2014) TUBITAK ULKABIM International Scientific Publication Promotion (for 4
Publications:
- (2014) EBILTEM Publication Award (for 4 publications)
- (2009) TUBITAK ULAKBIM International Scientific Publication Promotion Award
- (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 Award
- (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:
  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:
  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
  Thesis Title: A Reverse Engineering Methodology for the Development of Belief-
Desire-Intention Agents

Position after graduation: Software Developer at Masomo Gaming Co., Turkey

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

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

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

Thesis Title: A Methodology for the Automatic Generation of JavaCard Software
Position after graduation: Software Engineer at R&D Center of OBASE Computer and Consultancy Co., Turkey

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

Thesis Title: A Mobile Agent-based Decision Support System for Cement Industry
Position after graduation: Industrial Engineer at Cimentos Group, Turkey

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

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

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

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

Thesis Title: A Platform-specific Metamodel for Developing Web-based Systems
Position after graduation: Co-founder and president of Unit Information Technologies
Graduated M.Sc. Non-Thesis Students:

  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

  Graduation Project Title: Assessment of the Semantic Service Discovery Methods on Mobile Platforms
  Position after graduation: Software Developer at MAN Turkey Co., Turkey

  Graduation Project Title: A Study on the RESTFul Web Services
  Position after graduation: Responsible of Ege University International Computer Institute’s PC Laboratory, Turkey

  Graduation Project Title: A Software that Records and Displays Optical Disc Contents
  Position after graduation: Information Technology Teacher at 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

- Prof. Dr. Marjan Mernik
  University of Maribor, Institute of Computer Science, Smetanova ul. 17 SI-2000 Maribor, SLOVENIA
  e-mail: marjan.mernik@uni-mb.si
  tel: 386 2 - 220 74 55

- Prof. Dr. Oguz Dikenelli
  Ege University, Computer Engineering Department, 35100 Bornova / Izmir, TURKEY
  e-mail: oguz.dikenelli@ege.edu.tr
  tel: 90 - 232 - 388 72 21 - 3083

- Prof. Dr. E. Turhan Tunali
  Dean of the Engineering and Computer Sciences Faculty
  Izmir University of Economics, Sakarya Cad. No: 156 Balcova / Izmir, TURKEY
  e-mail: turhan.tunali@ieu.edu.tr
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- Assoc. Prof. Dr. Sule Yildirim
  Gjøvik University College, Faculty of Computer Science and Media Technology, Po. Box. 191, 2802 Gjøvik, NORWAY
  e-mail: suley@hig.no
  tel: 47 - 611 35 442