Mert Toslali

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Computer engineering Ph.D. student at Boston University, focusing on monitoring, performance analytics, online experimentation, and distributed tracing in the cloud.

EDUCATION

Boston University   **Boston, MA, USA**
*Ph.D., Computer Engineering, **GPA: 4.0***   *Sept 2018 - Present*
- Advisor: Prof. Ayse K. Coskun
- Coursework: Advanced Data Structure and Algorithms, Cybersecurity, Operating Systems, Embedded Systems, Enterprise Client-Server Software Systems Design, Cloud Computing, Machine Learning, Learning from Data

Bilkent University   **Ankara, Turkey**
*B.S., Electrical and Electronics Engineering, **GPA: 3.63***   *Sept 2011 - June 2016*
- Comprehensive (100%) Scholarship

University of Nebraska Lincoln   **Lincoln, NE, USA**
Exchange Student, Electrical and Computer Engineering   *Aug 2014 - Jan 2015*

RESEARCH EXPERIENCE

PeacLab, Boston University   **Boston, MA, USA**
Research Assistant   *Sept 2018 - Present*
- Diagnosing performance problems by leveraging statistical and machine learning in the cloud
- Advisor: Prof. Ayse K. Coskun

IBM T.J. Watson   **Yorktown Heights, NY, USA**
Research Intern   *May 2021 - Aug 2021*
- Astraea: Multi-armed bandit driven adaptive distributed tracing for performance diagnosis
- Supervisor: Dr. Fabio A. Oliveira

IBM T.J. Watson   **Yorktown Heights, NY, USA**
Research Intern   *June 2020 - Sept 2020*
- Tritium: Automated analytics and ML for fault localization using cross-layer telemetry in cloud
- Supervisor: Dr. Fabio A. Oliveira

IBM T.J. Watson   **Yorktown Heights, NY, USA**
Research Intern   *May 2019 - Aug 2019*
- Jackpot: Multi-armed bandit driven online experimentation of cloud microservices
- Supervisor: Dr. Fabio A. Oliveira

PUBLICATIONS

- **M. Toslali**, S. Parthasarathy, F. Oliveira, H. Huang, A. Coskun, "Iter8: Online Experimentation in the Cloud". In Proceedings of the 12th ACM Symposium on Cloud Computing (SoCC '21).

- **M. Toslali**, E. Ates, A. Ellis, Z. Zhang, D. Huye, L. Liu, S. Puterman, A.K. Coskun, R.R. Sambasivan, "Automating instrumentation choices for performance problems in distributed applications with VAIF". In Proceedings of the 12th ACM Symposium on Cloud Computing (SoCC '21).

- **M. Toslali**, S. Parthasarathy, F. Oliveira, A. Coskun, "JACKPOT: Online experimentation of Cloud Microservices". In 12th USENIX Workshop on Hot Topics in Cloud Computing (HotCloud '20).

- E. Ates, L. Sturmann, **M. Toslali**, O. Krieger, R. Megginson, A. K. Coskun, R. R. Sambasivan, "An automated, cross-layer instrumentation framework for diagnosing performance problems in distributed applications". In Proceedings of the 10th ACM Symposium on Cloud Computing (SoCC '19).

WORK EXPERIENCE

CyanGate **Ankara, Turkey**
Full Stack Software Developer *Jan 2018 - July 2018*
- o SDrive: Developed a file distribution platform on Salesforce integrating with Google Drive, Box, Amazon S3

OpsGenie-Atlassian **Ankara, Turkey**
Software Engineer *July 2017 - Dec 2017*
- o Thundra: Contributed to the development of a distributed log/stat data collector in serverless apps
- o Custom Query Language: Developed custom query syntax and grammar using Antlr
- o Cache Management: R&D of multiple caching systems for coherency and time comparison on AWS
- o API Gateway & Elastic Search: Developed an API integration for backend cloud services with ES

Turkcell **Istanbul, Turkey**
Software R&D Engineer *July 2016 - July 2017*
- o Messaging application (BiP) Rest API services: Developed BiP Translate, BiP Game Ground, BiP Pharmacy, BiP Weather, Bip Retail Hunt, BiP Face recognition services
- o OTA (over the air) interface: Developed the OTA client for sim card applications
- o Payment reconciliation infrastructure: Developed the payment infrastructure for BiP

Seneka **Ankara, Turkey**
Software Engineer *Sept 2015 - July 2016*
- o Contributed to the development of Electronic Document Management System for Custom and Trade Ministry

Turkcell **Ankara, Turkey**
Software Engineer Intern *July 2015 - Sept 2016*
- o Contributed in research for energy aware data center engineering

Gate Electronic **Ankara, Turkey**
Software Engineer Intern *July 2014 - Sept 2014*
- o Contributed to the development of file management and encryption system

TEACHING EXPERIENCE

Boston University **Ankara, Turkey**
Teaching Assistant *Sept 2019 – May 2021*
- o Advanced Data Structure and Algorithms course

Bilkent University **Ankara, Turkey**
Teaching Assistant *Sept 2012 – July 2014*
- o Computer Science 101 course
- o Physics 101 course
- o Physics 102 course

Bilkent University **Ankara, Turkey**
Volunteer Teacher *Sept 2012 – Jan 2014*
- o Elementary school Mathematics course
- o Elementary school Science course

KEY SKILLS

Python, Java, C#, C++, C, .Net, Kubernetes, Istio, Docker, Amazon Web Services, Elastic Search, SQL, JavaScript, Thymeleaf, Hibernate, Mongo DB, Oracle DB, Spring, Spring boot