$Emre\ Ates$ +1 857 540 8435 ates@bu.edu

Research Interests Monitoring and Management of Large-Scale Systems and Software, Machine Learning, Data Analysis, Cloud Computing, High Performance Computing

Education

Boston University, Electrical and Computer Engineering Dept. 2015 - Present PhD in Computer Engineering (Advisor: Prof. Ayşe K. Coşkun) GPA: 3.93 Coursework: Advanced Data Structures, Computer Architecture, Digital Design, Embedded Systems, Data Mining, Operating Systems, Cybersecurity, Advanced Computer Systems

 ${\bf Middle~East~Technical~University~(METU),~Turkey}$

2010 - 2015

B.S. in Electrical and Electronics Engineering Minor in History of Philosophy GPA: 3.23, Ranking: $37^{th}/353$ GPA: 3.50

Research Experience PeacLab Research Group, Boston, MA

September 2015 - present

Researched on data center monitoring and analytics, interference in HPC and cloud systems, end-to-end tracing of distributed applications.

BioMEMS Research Group, Ankara, Turkey

June 2014 - June 2015

Improved sensing circuity of a MEMS based Coulter counter.

Software Skills

 $\label{eq:continuity} Programming\ Languages:\ Verilog,\ C,\ C++,\ Java,\ Python,\ Perl,\ R,\ Bash\ (and\ other\ shell)\\ Environments\ and\ Tools:\ OpenStack,\ scikit-learn,\ Vowpal\ Wabbit,\ Autotools,\ L^AT_EX$

Publications

Ozan Tuncer, **Emre Ates**, Yijia Zhang, Ata Turk, Jim Brandt, Vitus Leung, Manuel Egele, Ayse K. Coskun, "Online Diagnosis of Performance Variation in HPC Systems Using Machine Learning," to appear in *IEEE Trans. on Parallel and Distributed Computing* (TPDS), 2018.

Qingqing Xiong, **Emre Ates**, Martin C. Herbordt, Ayse K. Coskun, "Tangram: Colocating HPC Applications with Oversubscription," to appear in *IEEE High Performance Extreme Computing Conf.* (HPEC), Boston, 2018.

Emre Ates, Ozan Tuncer, Ata Turk, Jim Brandt, Vitus Leung, Manuel Egele, Ayse K. Coskun, "Taxonomist: Application Detection through Rich Monitoring Data," to appear in *European Conf. on Parallel and Distributed Systems* (Euro-Par), Torino, 2018.

Ozan Tuncer, **Emre Ates**, Yijia Zhang, Ata Turk, Jim Brandt, Vitus Leung, Manuel Egele, Ayse K. Coskun, "Diagnosing Performance Variations in HPC Applications using Machine Learning," in *Int. Supercomputing Conf.* (ISC-HPC), Frankfurt, 2017.

Internships

Lawrence Livermore National Laboratory, Livermore, CA Summer 2017 Investigated the effect of power, network QoS, external traffic, number of processes, etc. on different supercomputing benchmarks, used machine learning to model performance.

Sandia National Laboratories, Albuquerque, NM

Summer 2016

Analyzed system monitoring data to automatically detect and classify anomalies in HPC clusters.

Investigated allocation and task mapping algorithms for dragonfly systems.

ASELSAN AŞ (Military Electronic Industries), Ankara, Turkey

Summer 2013

Improved the performance of a radar simulation in MATLAB, added 3D capabilities.

Teaching Experience

Applied Algorithms and Data Stuctures, Boston University Spring 2016, Fall 2016 Head TA; held weekly discussion sessions, graded exams/assignments, coordinated the graders.

Awards and Scholarships Gauss Award at ISC-HPC

June 2017

Research paper award given by German Gauss Center for Supercomputing

Bülent Kerim Altay Award METU

Spring 2011

For achieving 4.0 GPA

Invited Talks

"Diagnosing Performance Variations in HPC Applications Using Machine Learning", Lawrence Berkeley National Laboratory - NERSC, July 2017.