

Ata TURK

CONTACT INFORMATION

119 Peterborough St., Apt: 33,
02215 Boston, MA, USA

E-mail: ataturk@bu.edu
Twitter: @ata
Web: <http://ataturk.me>
Mobile: +1-617-803-2244

RESEARCH INTERESTS

cloud computing, bigdata, data analytics, information retrieval, HPC.

EDUCATION

Bilkent University, Bilkent, Ankara TURKEY

Ph.D., Computer Engineering, 2004-2012

- Thesis Topic: *Utilizing Query Logs for Data Replication and Placement in Big Data Applications*
- Advisor: Professor Cevdet Aykanat
- Area of Study: Cloud Computing

M.S., Computer Engineering, September 2004

- Thesis Topic: *Design & Implementation of an Efficient Parallel Crawler*
- Advisor: Professor Cevdet Aykanat
- Area of Study: Parallel Computing

B.S., Computer Engineering, June 2002

- With Honors in Engineering

PROFESSIONAL EXPERIENCE

Massachusetts Open Cloud Initiative (MOC) and **BU ECE Dept.**, Boston, MA
USA

Research Scientist

September 2016 -

- Research scientist in BU ECE Dept. working on the Massachusetts Open Cloud (MOC) project, leading the bigdata and cloud monitoring solutions in MOC.

Massachusetts Open Cloud Initiative (MOC) and **BU ECE Dept.**, Boston, MA
USA

Postdoctoral Researcher

November 2014 - August 2016

- Member of the Performance and Energy-Aware Computing Library (PeacLab), working on green cloud computing solutions
- Member of the Massachusetts Open Cloud Initiative (MOC), leading bigdata and cloud monitoring solutions
- Instructor to the Cloud Computing course jointly taught in Boston University and Northeastern University.

Yahoo! Research, Barcelona, Catalonia, Spain

Postdoctoral Researcher

Sep 2013 - November 2014

- Member in Web Retrieval & Personalization Team
- Developed entity suggestion systems for Yahoo Search page
- Worked on user profile generation for Yahoo users
- Developed improved frontier ranking systems for crawling higher quality content

Bilkent University Comp. Eng. Dept., Turkey

Postdoctoral Researcher

Sep 2012 - Sep 2013

- Coordinator/researcher in EU-funded HPC projects

Bor Software LLC, Ankara, TURKEY

Founder & managing partner of Bor Software LLC

June 2007 - Sep 2010

- Developed mobile applications for iPhone, Blackberry and Java ME.
- Managed the RoR-based website of www.goodmagazine.com, handled the migration of Ruby site to PHP site www.good.is
- Managed the development of many government-issue content management systems.
- Employed more than 10 workers.
- Shares sold to Natek Bilisim LLC.

INTERNSHIPS &
TRAININGS

- Internship in Yahoo! Research, Barcelona, Nov – Dec 2010
- Attended PRACE Autumn School on HPC technologies in BSC Barcelona, Oct 2010
- Attended The International Summer School on Grid Computing, July 2004

REFEREED
JOURNAL
PUBLICATIONS

H. Chen, A. Turk, S. S. Duri, C. Isci, A. K. Coskun “*Automated system change discovery and management in the cloud*”.
IBM Journal of Research and Development. 60(2-3), pp. 2: 1-2: 10, 2016.

A. Turk, O. R. Selvitopi, C. Aykanat, H. Ferhatosmanoglu, “*Temporal Workload-Aware Replicated Partitioning for Social Networks*”.
IEEE Trans. Knowledge and Data Engineering, 2014.
doi:<http://doi.ieeecomputersociety.org/10.1109/TKDE.2014.2302291>

A. Turk, K. Y. Oktay, C. Aykanat, “*Query-Log Aware Replicated Declustering*”,
IEEE Trans. Parallel and Distributed Systems. 24(5), pp. 987-995, 2012.
doi:<http://doi.ieeecomputersociety.org/10.1109/TPDS.2012.113>

T. Kucukyilmaz, A. Turk, C. Aykanat, “*A Parallel Framework for In-Memory Construction of Term-Partitioned Inverted Indexes*”, The Computer Journal. 55(11), pp: 1317–1330, 2012. doi:<http://dx.doi.org/10.1093/comjnl/bxr133>

O. R. Selvitopi, A. Turk, C. Aykanat, “*Replicated Partitioning for Undirected Hypergraphs*”, J. of Parallel and Distributed Computing. 72(4), pp: 547–563, April 2012. doi:<http://dx.doi.org/10.1016/j.jpdc.2012.01.004>

A. Cevahir, C. Aykanat, A. Turk, B. B. Cambazoglu, “*Site-Based Partitioning and Repartitioning Techniques for Parallel PageRank Computation*”,
IEEE Transactions on Parallel and Distributed Systems, 22(5), pp: 786–802, May 2011. doi:<http://dx.doi.org/10.1109/TPDS.2010.119>

B. B. Cambazoglu, E. Karaca, T. Kucukyilmaz, A. Turk, C. Aykanat, “*Architecture of a Grid-Enabled Web Search Engine*”, Information Processing & Management 43(3), pp: 609–623, May 2007.
doi:<http://dx.doi.org/10.1016/j.ipm.2006.10.011>

CONFERENCE
PUBLICATIONS

A. Turk, H. Chen, A. Byrne, J. Knollmeyer, S. Duri, C. Isci, and A. K. Coskun “*DeltaSherlock: Identifying Changes in the Cloud*”,
in *IEEE International Conference on BigData (IEEE BigData’16)*, accepted for publication, 2016.

- J. Hennessey, S. Tikale, A. Turk, E. Kaynar, C. Hill, P. Desnoyers, O. Krieger, “HIL: Designing an Exokernel for the Data Center”, in *ACM Symposium on Cloud Computing (SoCC'16)*, pp. 155–168, 2016. doi:<http://dx.doi.org/10.1145/2987550.2987588>
- A. Turk, R.S. Gudimetla, E. U. Kaynar, J. Hennessey, S. Tikale, P. Desnoyers, O. Krieger, “An experiment on Bare-Metal BigData Provisioning”, in *8th USENIX Workshop on Hot Topics in Cloud Computing (HotCloud 16)*, 2016.
- A. Turk, H. Chen, O. Tuncer, H. Li, Q. Li, O. Krieger, A. K. Coskun, “Seeing into a Public Cloud: Monitoring the Massachusetts Open Cloud”, in *USENIX Workshop on Cool Topics on Sustainable Data Centers (CoolDC 16)*, 2016.
- M. Zapater, A. Turk, J. M. Moya, J. L. Ayala, A. K. Coskun, “Dynamic Workload and Cooling Management in High-Efficiency Data Centers”, in *International Green and Sustainable Computing Conf. (IGSC'15)*, pp 1–8, 2015. doi:<http://dx.doi.org/10.1145/2766462.2767737>
- G. B. Tran, A. Turk, B. B. Cambazoglu, “A Random Walk Model for Optimization of Search Impact in Web Frontier Ranking”, in *International ACM SIGIR Conference on Research and Development in Information Retrieval (ACM SIGIR'15)*, pp 153–162, 2015. doi:<http://dx.doi.org/10.1145/2766462.2767737>
- A. Turk, G. V. Demirci, C. Aykanat, S. v. Alfthan, I. Honkonen, “Investigation of Load Balancing Scalability in Space Plasma Simulations”, in *Applied Parallel and Scientific Computing (LNCS)*, vol. 7782, pp: 558–562, 2013.
- A. Turk, B. B. Cambazoglu, C. Aykanat, “Hypergraph-Theoretic Partitioning Models for Parallel Web Crawling”, in *26th International Symposium on Computer and Information Sciences*, London, UK, SEP 26-28, 2011,
- T. Kucukyilmaz, A. Turk, C. Aykanat, “Memory Resident Parallel Inverted Index Construction”, in *26th International Symposium on Computer and Information Sciences*, London, UK, Sep 26-28, 2011, (Appeared in *Computer and Information Sciences II*, pp: 19–25, 2011.)
- O. K. Yasin, A. Turk, C. Aykanat, “Selective Replicated Declustering for Arbitrary Queries.”, in *15th International Euro-Par Conference on Parallel Computing*, Delft, Netherlands, Aug 25-28, 2009, (Appeared in *Lecture Notes in Computer Science*, vol: 5704, pp: 375-386, 2009.)
- A. Cevahir, C. Aykanat, A. Turk, B. B. Cambazoglu, “A Web-Site-Based Partitioning Technique for Reducing Preprocessing Overhead of Parallel Pagerank Computation”, in *8th International Workshop on Applied Parallel Computing (PARA 2006)*, Umea, Sweden, Jun 18-21, 2006. (Appeared in *Lecture Notes in Computer Science*, vol: 4699, pp: 908–918, 2007.)
- B. B. Cambazoglu, A. Turk, C. Aykanat, “Data-parallel web crawling models”, *19th International Symposium on Computer and Information Sciences (ISCIS 2004)*, Kemer Antalya, Turkey, Oct 27-29, 2004. (Appeared in *Lecture Notes in Computer Science*, vol: 3280, pp: 801-809, 2004.)

- PROJECTS
- EU FP6 and FP7 Projects,
- *LEADS: (Large-Scale Elastic Architecture for Data as a Service)* (2014 - 2015), Role: Researcher,
 - *PRACE-3IP: PRACE (Partnership for Advanced Computing in Europe) Third Implementation Phase Project* (2012 - 2014), Role: Researcher,
 - *PRACE-2IP: PRACE (Partnership for Advanced Computing in Europe) Second Implementation Phase Project* (2011 - 2013), Role: Task Co-Leader,
EU-FP7, Grant Agreement No: RI-283493, Bilkent Budget: 175,000 Euro.
 - *PRACE-1IP: PRACE (Partnership for Advanced Computing in Europe) First Implementation Phase Project* (2010 - 2012), Role: Subtask Co-Leader,
EU-FP7, Grant Agreement No: RI-261557, Bilkent Budget: 205,000 Euro.
 - *SEE-GRID: South Eastern European GRid Enabled eInfrastructure Development*, Role: Researcher, EU-FP6, Specific Support Action, Contract No: 002356, Bilkent Budget: 76,000 Euro.
- TUBITAK EEEAG Projects
- TUBITAK EEEAG Project No: 112E120,
Partitioning, Replication and Query Processing in Social Networks (2012 -), Role: Postdoc, Budget: 80,000 Euro.
 - TUBITAK EEEAG Project No: 109E019,
Cost Action IC0805 Open European Network for High Performance Computing,
Efficient Parallel Text Retrieval and Query Processing Under Replication Constraints (2009 - 2011), Role: Researcher, Budget: 80,000 Euro.
 - TUBITAK EEEAG Project No: 106E069,
Efficient Parallel Text Retrieval and Query Processing (2006 - 2008), Role: Researcher, Budget: 90,000 USD.
 - TUBITAK EEEAG Project No: 103E013,
Efficient Parallel Crawling (2004 - 2006), Role: Researcher, Budget: 50,000 USD.
- CONSULTING SERVICES
- TURKSAT, Consulting on Cloud Computing Investment Opportunities in Turkey, Jan 2011
 - T2 Software LLC, Analyzing Social Media for Turkish Government and Private Sector: Listening, Measurement, and Engagement, Dec 2012 - Aug 2013.
- JOURNAL REFEREE SERVICE
- *IEEE Transactions on Parallel and Distributed Systems*
 - *IEEE Transactions on Knowledge and Data Engineering*
 - *Journal on Parallel and Distributed Computing*
 - *The Supercomputing Journal*
- CONFERENCE SERVICE
- PC Member: IEEE Int. Conf. on High Perf. Comp. & Comm. (HPCC) 2014
 - PC Member: European Conference on Information Retrieval (ECIR) 2013, 2015
 - PC Member: High Performance Computing for Big Data (HPC4BD) 2015, 2016
 - PC Member: Conference on Information and Knowledge Management (CIKM) 2016
 - Chair: IEEE workshop on Big Data for Cloud Operations Management (BDCOM) 2016
- AWARDS
- Bilkent University
- Full Scholarship, 1998–2002
 - Computer Engineering Scholarship, 2002–2004
 - Computer Engineering Scholarship, 2004–2007
- TEACHING EXPERIENCE

Boston University Electrical and Computer Engineering Dept., Boston, MA, USA

Instructor

September 2015 - 2016

- Instructor for BU EC500 A1, BU CS591 K2, NU 7680 Cloud Computing Course
 - Spring 2015 & Spring 2016
 - Designed and instructed a course that combines reading and discussion of influential publications in cloud computing and a large project, where projects are done by teams of 5 students working with a mentor from the industry. The course is currently being offered both in BU and Northeastern Universities.

Bilkent University Computer Engineering Dept., Bilkent, Ankara TURKEY

Teaching Assistant

September 2002 to September 2012

- TA and Grader for CS 473 Algorithms I
 - Fall 2004 to Fall 2011
 - Responsible for supervision of 2 hour laboratory where senior undergraduate students are tested for algorithmic skills.
- TA for CS 201: Fundamental Structures of Computer Science I
 - Autumn 2011
 - Responsible for 1 hour recitation and supervision of 1 hour laboratory where sophomore undergraduate students are tested for programming skills.
 - Developed supplementary course material for recitations.
- TA for CS 202: Fundamental Structures of Computer Science II
- TA for CS 342: Operating Systems
- TA for CS 352: Database Management Systems
- Lab Instructor for CS 101: Algorithms and Programming I Laboratory
- Lab Instructor for CS 102: Algorithms and Programming II Laboratory

SOFTWARE SKILLS Computer Programming and Platforms:

- Apache PIG, MapReduce (Hadoop), Cassandra, OpenStack, Vowpal Wabbit, Weka, Python, IPython, Jupyter, sklearn, UNIX shell scripting, awk, R, NoSQL, Java, C, PHP, MySQL, Postgres, Ruby on Rails, HIVE, C++, JavaScript, SQL, and others

Version Control and Software Configuration Management:

- VCS (git, SVN), and others

Information/Internet Technology:

- Networking (UDP, TCP, DNS), Services (SQL, SMTP)

REFERENCES
AVAILABLE TO
CONTACT

Dr. Cevdet Aykanat (e-mail: aykanat@cs.bilkent.edu.tr; phone: +90-312-290-1625)

- Professor, Computer Engineering Department, Bilkent University
- ◇ Bilkent University, Department of Computer Engineering, Bilkent 06800 Ankara, TURKEY
- ★ *Dr. Aykanat was my MSc and PhD advisor.*

Dr. Berkant Barla Cambazoglu

- Senior Researcher, Yahoo! Research, Barcelona
- ◇ Avinguda Diagonal 177, 8th Floor, 08018, Barcelona, Catalunya (Spain)
- ★ *Dr. Cambazoglu was my manager in Yahoo! Research, Barcelona and also the co-author of a number of publications of mine.*

Prof. Orran Krieger

- Professor of the Practice (BU ECE & CS), BU Electrical and Computer Engineering, Computer Science, and BU Cloud Computing Initiative (CCI)
- ◇ Room 587, 3 Cummington Mall, Boston University, MA, USA.
- ★ *Prof. Krieger is one of my advisors in Boston University and at the Mass. Open Cloud Project.*

Further references are available upon request.