TUDOR DAVID

RESUME

Oracle,
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Research Interests:

Concurrent and distributed systems, multi-core architectures, new memory technologies, blockchains.

Experience

- **Oct 2019 - present.** Principal member of technical staff.
  Oracle / Oracle Labs, Zurich, Switzerland.
  Topic: distributed database systems.
- **Oct 2017 - Sep 2019**. Postdoctoral researcher.
  IBM Research, Zurich, Switzerland.
  Topic: blockchain technologies, byzantine consensus.
- **Sep 2012 - Sep 2017**. Doctoral assistant.
  DCL (Distributed Computing Laboratory), EPFL, Switzerland.
  Topic: concurrent data structures; synchronization; durable data structures; concurrency control.
- **Summer 2016**. Research intern.
  Microsoft Research.
  Topic: concurrent data structures for non-volatile RAM.
- **Summer 2015**. Research intern.
  VMware Research Group.
  Topic: design of a scalable distributed serializable transaction system.
- **Sep 2011 - Feb 2012**. Software engineering intern.
  OptumSoft Inc..
  Topic: large-scale key-value store using TACC, a development platform for distributed applications.
- **Summer 2011, Summer 2012**. Research intern.
  DCL (Distributed Computing Laboratory), EPFL, Switzerland.
  Topic: explicit message-passing consensus protocols in large multi-cores.
- **2008-2010**. Student research assistant.
  DSRL (Distributed Systems Research Lab) Technical University of Cluj-Napoca, Romania.
  Topic: biologically-inspired methods for automatic web service composition and discovery.
- **Summer 2009**. Research intern.
  Laboratoire de l'Informatique du Parallelisme, Ecole Normale Superieure de Lyon, France.
  Topic: scheduling streaming applications on a heterogeneous multi-core.

Education

2012 - 2017	**École Polytechnique Fédérale de Lausanne, (EPFL)**, Lausanne, Switzerland PhD in Computer Science Thesis: Universally scalable concurrent data structures. Advisor: Prof. Rachid Guerraoui
2010 - 2012	**École Polytechnique Fédérale de Lausanne, (EPFL)**, Lausanne, Switzerland MSc in Computer Science, 5.63/6 GPA Thesis: Scalability and Performance of Large Scale Distributed Systems in Tacc. Advisor: Prof. Rachid Guerraoui
2006 - 2010	**Technical University of Cluj-Napoca**, Cluj-Napoca, Romania BSc in Computer Science, 9.59/10 GPA Thesis: Ant Inspired Method for Automatic Web Service Composition and Selection. Advisor: Prof. Ioan Salomie

Main Publications

- Chrysoula Stathakopoulou, Tudor David, and Marko Vukolic. **Mir-BFT: High Throughput BFT for Blockchains**, in submission, available on arXiv, 2019.
- Tudor David, Aleksandar Dragojevic, Rachid Guerraoui, and Igor Zablotchi. **Log-Free Concurrent Data Structures**, USENIX Annual Technical Conference (ATC), 2018.

- Marcos K. Aguilera, Tudor David, Rachid Guerraoui, and Junxiong Wang. **Locking Timestamps Versus Locking Objects**, Symposium on Principles of Distributed Computing (PODC), 2018.
- Tudor David and Rachid Guerraoui. **Concurrent Search Data Structures Can Be Blocking and Practically Wait-Free**, 28th Symposium on Parallelism in Algorithms and Architectures (SPAA), 2016.
- Tudor David, Rachid Guerraoui and Vasileios Trigonakis. **Asynchronized Concurrency: The Secret to Scaling Concurrent Search Data Structures**, 20th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS), 2015.
- Tudor David, Rachid Guerraoui and Maysam Yabandeh. **Consensus Inside**, 15th International Middleware Conference (Middleware), 2014, **Best Paper Award**.
- Tudor David, Rachid Guerraoui and Vasileios Trigonakis. **Everything You Always Wanted to Know about Synchronization but Were Afraid to Ask**, Symposium on Operating Systems Principles (SOSP), 2013.

Patents

- Aleksandar Dragojevic and Tudor David, **Memory management in non-volatile memory**, US Patent App. 15/638,164, 2018.

Achievements and Distinctions

- EPFL Teaching Assistant Award, 2017;
- VMware Academic Graduate Fellowship, 2015 - 2016;
- Best paper award, ACM Middleware Conference, 2014;
- EPFL Fellowship, 2012 - 2013;
- Merit Scholarship, Technical University of Cluj-Napoca (TUCN), 2008 - 2010;
- Study Scholarship, Technical University of Cluj-Napoca (TUCN), 2006 - 2008;

Recent Professional Service

- **PC Member:** DISC 2020, Usenix ATC 2021.
- **Reviewer:** Distributed Computing, 2018, 2021.
- **External reviewer:** SPAA 2017.
- **Sponsorship chair:** EuroSys 2021.

Teaching Experience

Teaching assistant:

- **Information, Calcul, Communication**, Undergraduate Course, EPFL, 2014, 2015, 2016 (in French);
- **System-Oriented Programming**, Undergraduate Course, EPFL, 2014, 2015 (in French);
- **Concurrent Algorithms**, Graduate Course, EPFL, 2013 - 2014 (in English);
- **Programmation II**, Undergraduate Course, EPFL, 2013 (in French);
- **Mathematiques II**, Undergraduate Course, UNIL, 2016 (in French);
- **Mathematiques - Mise à niveau**, Undergraduate Course, EPFL, 2017 (in French).

Lecturing:

- **Concurrent Algorithms**, Graduate Course, EPFL, 2016 - taught a subset of the lectures.
- **Distributed Algorithms**, Graduate Course, EPFL, 2018 - invited lecturer.

Mentoring:

- Co-supervised 2 Masters theses, 6 semester project students, 3 interns.

Software projects

- ASCYLIB (github.com/LPD-EPFL/ASCYLIB): a concurrent data structure library;
- libnvram (http://dcl.epfl.ch/site/nvram): an NVRAM concurrent data structure library;
- libslock (github.com/tudordavid/libslock): a portable lock algorithm library;
- ConsensusInside (github.com/LPD-EPFL/consensusinside): message-passing consensus for multi-cores.

Languages

- **English:** fluent (C2); **French:** good (B2); **German:** good (B2); **Romanian:** native.