robertpreissl

lead software engineer, engineering manager, distributed computing specialist

contact

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programming

♥ C/C++
♥ Scala
Akka
Play
Groovy & Grails
Java

skills & interests

web backend:

⋆ Reactive
⋆ Functional
⋆ Event-driven
⋆ Asynchronous
⋆ Service oriented

machine learning:

⋆ Machine Learning by Andrew Ng, Stanford, (Coursera)
⋆ Large scale neural network simulation codes in C++

hpc:

⋆ MPI
⋆ OpenMP
⋆ Pthreads
⋆ PGAS: UPC, CAF
⋆ Parallel Algorithms

languages

english fluency
german fluency
french proficiency

education

2006–2010 **Ph.D.** of Computer Science — Johannes Kepler University, Linz, Austria
Specialization in High Performance Computing

2000–2006 **M.S.** of Applied Mathematics — Johannes Kepler University, Linz, Austria
Specialization in Genetic Algo., Neural Nets, Statistics, Numerical Math.

experience

2015–Now **TICKETFLY INC.** — San Francisco, CA, USA
Software Engineering Manager
Ticketfly Inc., San Francisco, CA
⋆ Manage, mentor, grow the Infrastructure/Platform team at Ticketfly. Support a highly skilled team in technical and strategic decisions on their goal to move all Ticketfly's services into AWS. In addition, I am proud of a team building tools and services to enable our product teams iterate faster on their feature development.

2012–2015 **TICKETFLY INC.** — San Francisco, CA, USA
Distributed Computing Engineer, Lead Software Engineer
Ticketfly Inc., San Francisco, CA
⋆ Design reactive (fast, scalable, fault-tolerant, event-driven) production backend-services and algorithms in **Scala** for high-volume online ticket sales (15M events on the platform per year, incl. high-load sales like "Burning-Man")
⋆ Lead a team of engineers to re-architect the Ticketfly software stack into microservices to ensure performance, growth and robustness of the fastest-growing independent ticketing platform in the US.

2011–2012 **IBM RESEARCH** — San Jose, CA, USA
Software Engineering Researcher, Research Staff Member
IBM Research Laboratory San Jose, Almaden, CA
⋆ Develop neural network simulation codes in **C++** to support neuromorphic ASIC design. The code was also used for the first human-scale cortex simulation and ran successfully on up to 96 racks of an IBM Blue Gene/Q system comprising 1.6 million processor cores and 1.6 PB of memory.
⋆ Early proto-typing of classifier algorithms on IBM Cognitive Computing Group proprietary spiking-neural-network architecture called TrueNorth.

2010-2011 **LAWRENCE BERKELEY NATIONAL LABORATORY (LBNL)** — Berkeley, CA, USA
Postdoctoral Researcher
Lawrence Berkeley National Laboratory (LBNL), USA
In collaboration with the Princeton Plasma Physics Laboratory (PPPL) ported highly parallel **C/C++/Fortran** magnetic fusion simulation codes to next-generation Petascale supercomputers.

2007 & 2009 **LAWRENCE LIVERMORE NATIONAL LABORATORY (LLNL)** — Livermore, CA, USA
Research Scholar, Doctoral Studies
Lawrence Livermore National Laboratory (LLNL), USA
Source-to-source compiler transformations of parallel **C/C++** applications.

2008 **IBM RESEARCH** Haifa, Israel
Research Scholar
IBM Haifa Research Laboratory, Israel
Performance analysis tools for **Java** multithreaded applications on Linux platforms based on combined user- and kernel-space information.

2007 **CERN** Geneva, Switzerland
European Organization for Nuclear Research (CERN), Switzerland
Distributed nuclear physics computations on virtual machines using BOINC.

selected publications

international peer-reviewed conferences/proceedings

Compass: A Scalable Simulator for an Architecture for Cognitive Computing
Robert Preissl, Theodore M. Wong, Pallab Datta, Myron Flickner, Raghavendra Singh, Steven K. Esser, William P. Risk, Horst D. Simon, Dharmendra S. Modha
Proceedings of the International Conference on High Performance Computing, Networking, Storage and Analysis, SC'12. ***Best paper award finalist***, 2012, Salt Lake City, Utah

Multithreaded Global Address Space Communication Techniques for Gyrokinetic Fusion Applications on Ultra-Scale Platforms
Robert Preissl, Nathan Wichmann, Bill Long, John Shalf, Stephane Ethier, Alice Koniges
Proceedings of 2011 International Conference for High Performance Computing, Networking, Storage and Analysis, SC'11. ***Best paper award finalist***, 2011, Seattle, Washington

article in peer-reviewed journal

Overlapping Communication with Computation Using OpenMP Tasks on the GTS Magnetic Fusion Code
Robert Preissl, Alice Koniges, Stephan Ethier, Weixing Wang, Nathan Wichmann
Sci. Program. *18.3-4 (Aug. 2010) pp. 139–151. IOS Press, 2010*

Application Acceleration on Current and Future Cray Platforms, **Best paper award winner**
Alice Koniges, Robert Preissl, Jihan Kim, David Eder, Aaron Fisher, Nathan Masters, Velimir Mlaker, Stephane Ethier, Weixing Wang, Martin Head-Gordon, Nathan Wichmann
CUG *(May 2010). 2010*

references, research

⋆ **Dharmendra S. Modha**
IBM Fellow and Chief Scientist, IBM Research
Cognitive Computing, IBM Research Laboratory San Jose, USA

⋆ **John Shalf**
Research adviser, Lawrence Berkeley National Laboratory
Computer & Data Sciences, Lawrence Berkeley National Laboratory (LBNL), USA

⋆ **Dieter Kranzlmüller**
Ph.D. thesis adviser
Department of Computer Science, Ludwig-Maximilians University Munich, Germany

⋆ **Martin Schulz**
Research adviser, LLNL
Center for Applied Scientific Computing (CASC), Lawrence Livermore National Laboratory (LLNL), USA