Ronny Brendel

ronnybrendel@gmail.com automaton2000.com

Work Experience

2019–today **Senior System Software Engineer**

2017–2018 **Oak Ridge National Laboratory**
Research Associate

Research and application of advanced performance analysis methods to enable leadership-class applications on Titan and its successor Summit, the then fastest computer in the world

Performance expert, tutorial lead and mentor for GPU Hackathons

2015–2016 **TU Dresden**, Center for Information Services and High Performance Computing
Research Associate

Advances in comparative performance analysis and live visualization of performance data

Mentor and tutorial lead for Score-P and Vampir

Publications: *Structural Clustering: A New Approach to Support Performance Analysis at Scale* and *Edge Bundling for Visualizing Communication Behavior*

2012–2013 **TU Dresden**, Chair for Algebraic and Logical Foundations of Computer Science
Student Assistant

Instructor for the exercises *Theoretische Informatik und Logik* and *Advanced Logic*

Development and LTL+quantitative modeling of novel synchronization algorithms

2007–2012 **TU Dresden**, Center for Information Services and High Performance Computing
Computer Scientist

Lead engineer for the modernization of *Vampir*, including a rewrite in Qt and port to Windows

Setup and coordination of the development process

Core developer of *Open Trace Format*

Contributions to *VampirTrace* and multiple small projects

Publications: *Introducing the Open Trace Format (OTF)*, *Trace File Comparison with a Hierarchical Sequence Alignment Algorithm*, and *Memory Allocation Tracing with VampirTrace*

Education

2015 Diplom-Informatiker (equivalent to Master's degree in Computer Science), TU Dresden

Minor subject: Discrete Mathematics, Algebra & Geometry

2007 Computer Scientist Specialized in Application Development (formal training), TU Dresden

Skills

Languages:	English (full professional proficiency), German (native)
Programming:	C/C++, Python, Bash, to a lesser degree others like Go, Java, Haskell, Lisp
Libraries:	STL, Qt, OpenMP, Message Passing Interface, Google Test
Tools:	Linux, Windows, Vim, Perforce, Git, Visual Studio, WSL, numerous ∗nix tools, many debugging and performance analysis tools, Microsoft and Google Office, LaTeX
Topics:	Software Performance Analysis, CPU and GPU Architecture, High Performance Computing, Discrete Mathematics, Formal Methods, Algorithms, API-, UI design

---

Activities & Achievements

2018–today CppCon Program Committee

Publications

github.com/hydroo

I solved over 175 mathematical programming problems: projecteuler.net/profile/hydro.png