Michael Stanton

Wallbergstrasse 28 • Markt Schwaben, Germany 85770
+49 (0) 151 4454 3634 • ripsawridge@gmail.com

Experience

- **Google Corporation**   **Munich, Germany**
  Senior Software Engineer   *2012 – 2021*

  - V8 is the JavaScript compiler and runtime environment shipped in Google Chrome and Node.js, providing optimized code execution to over a billion users.
  - Led a team of senior developers to produce the TurboFan optimizing JavaScript compiler, shipping in V8 since 2017.
  - Led the effort to make TurboFan fully concurrent, a challenging project because the compiler must introspect into continually mutating data structures to achieve high performance. Success required the creation of new heuristics, programming idioms, and testing modes that utilize TSAN (Thread Sanitizer). Shipping in Chrome since November, 2021.
  - Adapted V8 to support the Intel CET Shadow Stack, new hardware meant to prevent ROP attacks.
  - Developed the Feedback Vector to collect runtime feedback in JavaScript programs. This enabled adding an interpreter to V8 in 2015.
  - Implemented AllocationSites, a method for choosing ideal representation of arrays, and serving as a pretenuring platform for generational garbage collectors.
  - Spoke often to university students about working in V8, at Google, and in the software industry in general from my experience as an individual contributor and manager. Wrote blog articles to explain arcane subjects to coding enthusiasts.

- **Advanced Medical Diagnostics**   **Waterloo, Belgium**
  Software Engineer Lead   *2009 – 2012*

  - Development team Lead for the HistoScanning product, which detects regions of interest in a reconstructed, segmented prostate gland from ultrasound data.
  - Implemented a re-write of the visualization system using the open source VTK library.
  - Responsibilities included UI development with WPF, database design and implementation (NHibernate, Spring.NET), detecting and solving performance issues, servo-motor control, and interface API design for a custom-built ultrasound machine. Development of a custom plugin solution to package and ship sensitive or updatable components. Interface with research team for special visualizations and data import/export from MATLAB.

- **Avid Corporation**   **Munich, Germany**
  Principal Software Engineer   *2005 – 2009*

  - Worked in a principal design role for the next-gen Interplay Server, which is a redesign of the previous C++ system using Java, Spring, Hibernate and SQL. Cross-team coordination between engineering teams in Munich, Tewksbury and Montreal. Employment of Agile development processes (SCRUM, sprints). Debugging and feature implementation in the legacy C++ server as well.

- **Microsoft Corporation**   **Redmond, Washington, USA**
  Software Engineer/Lead   *1998 – 2005*

  - Led a team of 4 focused on fixing race conditions, leaks and crashes in the Common Language Runtime (CLR) version 2.0. Responsibilities include debugging/fixing hard-to-reproduce issues, being the primary development contact for Product Support in the field with Customer stress issues, and improving the product with smarter coding practices and test runs.
  - Contributed to design and implementation of managed breakpoint support in unmanaged debuggers. Exceptions can optionally be raised by the CLR when methods are just-in-time compiled, then handled by the debugger which then has an address to set breakpoints.
  - Adding and maintaining features of the SOS.DLL CLR debugging tool. Maintain a blog and give presentations on the tool, geared towards debugging CLR issues on servers or from dump files.

- **Intel Corporation**   **Portland, Oregon, USA**
  Software Engineer   *1996 – 1998*

– Implemented the on-line update feature of an online help and antivirus system. Network detection and download of patches, restart after patch application, etc.

Education

- **University of Texas** **Austin, Texas**
  B.S. Computer Science *1993 – 1996*
    – 3.9 GPA in major Concentration
    – Working knowledge of German, written and spoken
    – Authored a tutorial on implementing structured data types in Mathematica for the book "Abstract Data Types," by Dr. Nell Dale.

Core Technical Skills

Languages: C, C++, JavaScript, Python, Java, x86/x64 assembly, shell script, SQL
Technologies: Linux, Docker containers, Subversion, Git, Spring, Hibernate, WPF