

DAVE MICHAEL

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I'm an enthusiastic, team-oriented software engineer and tech lead with experience ranging from working on client-side applications like Chrome to massively parallel geospatial fusion of ML data in support of Google Maps. I strive to make everybody around me more effective so we can build great products together.

Work Experience

Google

July 2010 - Present

Software Engineer (Senior SWE since 2011, Staff SWE since 2023)

- **GeoTracker Team Lead** (2015-present, TL since 2018)

Currently leading a team of seven software engineers responsible for geospatial fusion of machine learning detections at scale to derive knowledge about the real world. We run at world scale using Google Flume and Spanner.

- Work with partner teams across Geo to understand requirements and opportunities in order to set the product and technical strategy for GeoTracker. Collaborate with partner teams to influence strategy in the broader org.
- Designed and implemented key APIs of the system allowing flexible execution of client code.
- Designed and implemented the approach to sharding data geospatially for running in a massively parallel way.
- Designed and implemented an efficient clustering algorithm to save significant processing time with improved precision and recall over the previous method.

- **Chrome Team - Pepper & Native Client SWE** (2013-2015)

Designed, implemented, and maintained cross-platform APIs for the Pepper Plugin API (PPAPI), which allowed plugins like Adobe Flash and Native Client applications to interact with Chrome and the operating system securely and efficiently.

- Added key secure, cross-platform features including asynchronous and synchronous communication and thread-safety.
- Co-inventor on a patent for Asynchronous Message Passing: US-9128702-B2.
- Ported id Software's Quake to Native Client (github.com/davemichael/NaCl-Quake)

Sandia National Laboratories

June 2001 - May 2010

Senior Member of the Technical Staff

- **ICADS**

- **Software Engineer** - Owned network communication code and distributed observer pattern.
- **Implementation Architect** - Led adoption of automated unit testing, static analysis, code review.

- **Principal Investigator**

- Led Research and Development Project on Online Scheduling Algorithms for Remote Sensing.
- Net-Centric Prototype - Led a small team which developed a real-time geospatial information system using Google Earth.

Skills

- Leadership, mentoring, and technical strategy
- C++, Python, JavaScript, Java, C, Rust
- Machine Learning, Computer Vision
- Object-Oriented Design & Development, Design Patterns
- Distributed & Concurrent Programming
- Linux, Windows, MacOS

Miscellaneous

- Conducted over 200 Google SWE interviews.
- Taught Mentor Training at Google.
- Former Chromium browser committer
- Contributor to WebKit, TAO CORBA, and Weka ML
- Lead singer and guitar player for rock band "void**"

Education

- **M.Eng. in Computer Science**, Cornell University 2006
Computer Vision, Machine Learning, Algorithms and Data Structures.
- **B.S. in Computer Science** (Mathematics minor), Denison University 2001
Machine Learning, Operating Systems, Software Engineering.