



# Dave Kilian

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Senior engineer experienced in architecting for low latency at scale in C and C++. Interested in foundational software like databases, distributed storage, file systems, multithreading, operating systems and game engines. Skilled technical writer and in-person presenter with a knack for explaining difficult technical concepts. Proud dad of three little wild men. Graduated from Brown University in 2013. Lifetime learner. Licensed high school teacher in Washington state.

## Work Experience

### Senior Member of Technical Staff, Qumulo, 2023-Present

- Working on next-generation cloud file storage

### Principal Software Engineer, Azure Storage, Microsoft, 2017-2021

- Spearheaded, co-architected and co-developed proof-of-concept next-generation Azure virtual machine disk storage, capable of serving over 1 million IOPS per server blade with half-millisecond latency.
- Developed and presented architecture deep-dive talk for new hires. Grew organically from notes to headliner of new all-day "boot camp" event, given at our Redmond, Shanghai, Hyderabad and Bengaluru offices, and recorded for posterity.
- Made significant contributions to a project optimizing network flow using InfiniBand RDMA

### Software Engineer II, Windows Deployment, Microsoft, 2013-2017

- Lead a ground-up rebuild of key components for Window's 'Reset this PC' recovery feature, which dramatically reduced failure rate
- Traveled overseas to work with PC manufacturers on customizing recovery for their devices

### Teaching Assistant for Brown University Computer Science, 2010-2013

- Assisted graduate- and undergraduate-level courses in graphics, operating systems, and cybersecurity
- As regular TA, developed course materials, graded assignments, ran coding labs and held office hours
- As head TA, hired and managed teams of undergrad TAs, organized courses, developed course content

## Patents

- [US 9,519,631](#): Semantic Diff and Automerge, based on work I did during a 2011 internship at Microsoft

## Technology Experience

**Most recently:** C/C++, Windows Driver Model, InfiniBand RDMA, B-Trees and Log-Structured Merge. These are all still top of mind.

**In the past:** OpenGL, Qt, Python, Java, Linux shells, C#, HTML, CSS, JavaScript, PHP, SQL. I have used these for nontrivial projects in the past, but it's been a while.

# Education

I graduated from Brown University in 2013 with a B.S. in Computer Science, with a 3.8 GPA. Relevant coursework:

- Software System Design
- Computer Networks
- Introduction to Multiprocessor Synchronization
- 3D Game Engines
- Design and Analysis of Algorithms
- Introduction to Computational Linguistics
- Operating Systems
- Operating Systems Implementation Lab
- Models of Computation
- Interactive Computer Graphics (Graduate-level)
- Introduction to Computer Systems Security
- Introduction to Android Game Development
- Introduction to Computer Graphics
- Introduction to Computer Systems
- The Matrix in Computer Science (Linear Algebra)
- Introduction to Software Engineering
- Discrete Structures and Probability

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The most recent version of this document is available at <http://www.davekilian.com/resume.html>.