Dave Kilian

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I'm currently on a career break while I focus on taking care of my very young kids (three, three and under, baby!). Before that, I was a Principal Software Engineer for Microsoft, working on storage performance for the Azure cloud. I graduated from Brown University with a B.S. in Computer Science in 2013.

I love computer systems! I have experience working on distributed data systems, multithreaded native code optimization, storage drivers, RDMA networking, and kernel programming. I also have interests in computer graphics, cryptography and operating systems.

I love to learn and teach! I used to do a well-loved 1½ hour "boot camp" technical presentation on Azure Storage a few times a year, and I was a teaching assistant for 6 classes over 5 semesters during my undergrad.

Work Experience

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

- Next-gen proof of concept for high performance Azure virtual machine disks
  - Spearheaded project based on own performance analysis, and obtained buyoff for project
  - Co-designed and developed optimized, wire-compatible implementation of Azure disk engine
  - Achieved >1 million IOPS per node with sub-millisecond latency, an orders-of-magnitude improvement
- Contributed to a project optimizing internal network data flow using InfiniBand RDMA
- Designed and gave in-depth tech talk for onboarding new hires ("Azure Storage Boot Camp")
  - Organically grew from notes to a talk to headliner of new all-day "boot camp" event
  - I was flown out to give my talk at our Shanghai, Hyderabad and Bengaluru offices

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 manufactuers on customizing recovery for their devices

Teaching Assistant for Brown University Computer Science, 2010-2013

- For 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. These were my bread and butter in my most recent job role. They're 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

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