Dave Kilian

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Ex-Microsoft Azure Principal Software 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.

I am looking for a next career step that will allow me to leverage my existing knowledge and skillset while also giving me the chance to learn something new. I value being able to work with smart, intellectually honest people, as well as just plain getting stuff done!

Work Experience

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 manufactuers 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

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