



David Kilian

<https://www.davekilian.com>
dave.kilian@gmail.com

I am a full-time employee working for Microsoft in Seattle.

I graduated from Brown University with a B.S. in Computer Science in May of 2013.

I love computer systems! I have experience in graphics, game engines, audio processing, and operating systems. Lately I have been interested in learning more about distributed storage, networking and cryptography.

I'm a quick study, and I love to learn and to teach.

Work Experience

Software Development Engineer, Microsoft

SDE II on Windows Deployment, August 2013-Present

- After becoming the primary contact for recovery, I lead a ground-up rebuild of Windows's Push-Button Reset feature: I identified design-level issues causing us recurring problems, came up with a design to fix those, proposed it to the team and garnered support, implemented and tested the design, and supported it in market.

Customers benefit from a halved failure rate, and broader support for automatic error recovery.

My team also benefits from a regression test suite which catches problems early, as well as comprehensive telemetry which provides deeper insight into real-world behavior. We now see fewer, much less severe bugs. The flexible design has enabled multiple Windows teams to build their solutions on reset.

- Traveled overseas to work with PC manufacturers on customizing recovery for their devices
- General source of knowledge about deployment, onboarded and mentored multiple team members

Patents

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

Internships

- May-August 2012: Worked with Windows Fundamentals team on an unannounced OS licensing project
- May-August 2011: Worked with Visual Studio Ultimate team developing extension for Team Foundation Server

Undergraduate Teaching Assistant for Brown University Computer Science Dept.

- Head TA for Interactive Computer Graphics (a graduate-level course)
- Project mentor TA for Operating Systems
- Head TA for Introduction to Computer Graphics
- Undergrad TA for Introduction to Computer Systems Security
- Undergrad TA for Introduction to Computer Graphics
- Undergrad TA for Introduction to Software Engineering

As a regular undergrad TA, I developed course materials (lectures, labs, assignments), graded assignments, and assisted students via office hours and email. As the head TA, I also managed undergrad TAs, organized courses, created new lecture content, and gave a couple lectures

Side Projects

- I post occasionally to a blog at www.davekilian.com
- I built a website for a webcomic, which I used to write for and "draw," at www.peebleslab.com
- Some of my past projects and current side projects can be found at github.com/davekilian

Technologies

Most proficient: C/C++, C#

My interest in systems programming keeps bringing me back to these languages.

C# was my first real programming language. I learned to develop using Windows Forms, XNA, MSSQL, and many features of the .NET framework. My studies in computer graphics and audio helped me learn to write performant C++, and my current job lead me to learn more about writing C/C++ applications with a focus on maintainability. During my job I set aside some time to learn new features introduced in C++11 and C++14.

Also know: Python, Java, HTML/CSS/JavaScript, PHP, Go

I have used these for non-trivial projects, but it's been long enough I may be rusty.

I go to Python whenever I need a quick script. I picked up Java for coursework, including on Android for a 2D game seminar. I built Peebles Lab (see Side Projects) from scratch using HTML, CSS and PHP. Recently I've started studying Go, but am not yet very experienced with it.

Other tools, platforms, frameworks: OpenGL, Windows, Git, Qt, Bash

Education

I have a B.S. in Computer Science from Brown University, for which I took the following courses:

- 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
- Introduction to Computer Systems Security
- Introduction to Android Game Development
- Introduction to Computer Graphics
- Introduction to Computer Systems
- The Matrix in Computer Science
- Introduction to Software Engineering
- Discrete Structures and Probability
- Programming with Data Structures and Algorithms

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