

Karl Voelker

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- Employment**
- Senior Software Engineer**, Plum, Remote Oct. 2015–Present
- Built backend embedded software for interactive touch-screen appliance
 - Built on-appliance software for final in-factory quality testing
 - Built cloud software for communication with appliances
 - Built end-to-end software for over-the-air installation of updates onto appliances
 - Built a variety of internal web apps and command-line tools
 - Built software for repeatable cloud deployments to AWS
 - Maintained embedded Linux OS built with Yocto
 - Maintained firmware for embedded PIC microcontrollers
 - Built automated tests for substantial portions of Python codebase
 - Applied static typing to Python code with PEP 484 annotations
 - Collaborated on product requirements, long-term planning, and issue-tracking and hiring processes
 - Used Python, SQL (Postgres), C, PIC Assembly, JavaScript (with React and Redux), AWS
- Software Engineer**, SmugMug, Mountain View, CA Oct. 2013–Oct. 2015
- *Lead engineer* on the SmugMug API
 - Built new features according to the needs of a wide variety of API consumers
 - Performed maintenance and security audits
 - Built an extensive suite of automated tests and an API testing framework
 - Guided the public launch of a new API version
 - Assisted internal and external developers with their use of the API
- Software Development Engineer II**, Lab126, Cupertino, CA Oct. 2012–Sep. 2013
- *Tech lead*, Kindle Fire web application platform
 - Provided technical leadership to a team of four engineers
 - Designed and implemented a new application platform
 - Worked with customers, architects, and managers on requirements and design
- Software Development Engineer**, Lab126, Cupertino, CA Aug. 2011–Sep. 2012
- Kindle e-reader platform generalist
 - Shipped Kindle Touch and Kindle Paperwhite
 - Proposed and implemented UI overhaul for Paperwhite release
 - Designed and implemented additions to UI platform API
 - Worked on boot, wifi configuration, system toolbars, and window layout
 - Created a UI interaction-testing framework
- Research Assistant**, UW–Madison, Madison, WI Aug. 2010–Aug. 2011
- Software Engineer Intern**, Microsoft, Redmond, WA May 2009–Aug. 2009
- Software Engineering Intern**, Truviso, Foster City, CA May 2008–Aug. 2008

Education

University of Wisconsin–Madison, Madison, WI, Fall 2010–Summer 2011
Graduate student in the Dept. of Computer Sciences, programming languages group

Rochester Institute of Technology, Rochester, NY, Fall 2005–Summer 2010
Graduated Summer 2010 with **M.S. and B.S. in Computer Science**
GPA 3.97; enrolled in Honors Program; National Merit Scholar
M.S. Thesis: “Practical Programming with Total Functions” (<http://pptf.karlv.net>)
Courses: algorithms, C.S. theory, cryptography, parallel computing, compilers

Skills

Python, Haskell, SQL, Postgres, JavaScript, React, Redux, AWS, C, C++, Java, Perl,
Linux, PIC Assembly, HTTP, Git, JIRA

Projects

Splitcent, a bill tracker for debts between friends

Argon, a declarative X11 window manager in Haskell