Sarah Withee

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Polyglot Software Engineer, Hardware Tinkerer,
International Public Speaker, Teacher, Mentor, and Geek

Skills

Knowledgeable (Things I've Used In Production):

Languages:	PHP, JavaScript, C#/ASP.net, Java, C++, Scala, Python, SQL, Ruby, HTML, CSS
Frameworks:	jQuery, Symfony, ExtJS, Android, Twilio, Ruby on Rails, Jekyll
Cloud/CI/CD:	Heroku, Travis CI, AppVeyor, AWS (S3, ECS, ECR, Aurora), Azure (Web Services, Functions), Terraform
Databases:	MySQL, SQL Server, Redis, SQLite
Version Control:	Git and GitHub, Subversion (SVN), Team Foundation Server
IDEs:	Visual Studio, VS Code, JetBrains/IntelliJ suite, Eclipse

Learning or Experimenting With (I've Not used in production):
Azure (IoT Hub, Service Queues), Laravel, Xamarin, React and React Native, MongoDB/NoSQL

Work Experience

Freelance/Contracting   Jun 2019 – Present

- **Integrated Redis server** into system platform and built out code for using it in caching and login systems
- **Fixed bugs and added new features** with a small team on a **React, React Native, and C# app** (web and mobile) to help caregivers remember to report patient information to doctors
- **Added AWS integrations** into a **Python** project to allow searching for academic papers without needing to subscribe to journals

Arcadia.io, Remote (based in Pittsburgh, PA)   Feb 2018 – Feb 2019
Software Developer Generalist, Data Pipeline team

Our team developed a system to replace an expensive third-party component to bring electronic healthcare records in-house nightly. As the team generalist, I worked on a wide variety of technologies and languages to help implement the microservices in the system.
- **Inherited a Ruby on Rails project** from a former team member, and learned Ruby on Rails to **fix security problems** and **add new features**, as well as **Docerize the app, prep the CI build, and create AWS configurations** for it
- **Added features and fixed bugs** in Monitoring and other microservices in **Scala**
- **Researched** and learned **AWS services** to start incorporating them into our product's different modules
- **Containerized monitoring services**, then **configured build systems** to build the service automatically
- **Wrote Terraform scripts to deploy monitoring services**, AWS Kinesis Firehose, and ElasticSearch
- Helped **mentor the junior developer** on the team and **interviewed new candidates** for the team

Stowers Institute for Medical Research, Kansas City, MO   Jul 2016 – Nov 2017
Software Developer, Laboratory Management Software team

On this team, I developed laboratory management software that over 400 scientists from over 20 science labs used in their daily research. The product was written in PHP and Symfony (backend) and JavaScript and ExtJS (frontend).
- Collaborated with Tissue Culture lab members to **rewrite the Tissue Culture module** in the newer product frameworks, which with their regular input, helped make the module optimize their workflow and speed up their data entries of experiment results
- **Developed new features** for the new Molecular Biology NGS module
- **Installed and configured** a daily documentation generator for the backend codebase

Commerce Bank, Kansas City, MO   Jun 2015 – July 2016
Software Developer

I was a part of the Developer Acceleration Program, which introduces just-hired developers to the processes and security protocols at the bank by rotating them through teams before settling on a team full time.
- **Architected and developed** a team data metric reporting system using **C#, ASP.net, and MVC**, which is used by many departments
- **Extended the Branch Connections framework** in **C#** to utilize a third party loan document service, which saved money and time needed to keep up with latest federal and local loan laws
- **Upgraded the Middleware event messaging framework** to use a newer **Java** version to comply with SSL and PCI card requirements
- **Created a real time fraud detection system** using **Hadoop, Spark, Python, Java, and R** with a team at a company hackathon, which was estimated by the fraud prevention department to prevent up to $1.2 billion in fraudulent transactions

Lexmark, Lenexa, KS — 2013, 2014
Software Engineering Intern
- Built a new automated testing framework for business intelligence reports using C++ and CPPUnit
- Implemented new features for Perceptive Photo Transfer Client in C#, JavaScript, and jQuery
- Mentored other interns to bring them up to speed on the main product and helped them debug errors

University of Missouri-Kansas City, Kansas City, MO — 2012-2015
- Undergraduate teaching assistant for CS 201 (Intro to C++) starting with lab teaching (2012-2014) then lecture instructing (2014-2015)
- Developed assignments, graded student work, and ensured ABET accreditation for the class

GeekGirl Computer Solutions, Kansas City, MO — 2009-2013
- Developed websites in PHP and provided web hosting services through my own business

Technical Velocity, Overland Park, KS — 2007
- Developed custom Windows scripts and websites in VBScript and Sharepoint for a tech support and consulting company

Cart32, Springfield, MO — 2005
- Built and customized e-commerce websites in ASP and VBScript for multiple clients

Projects

Code Thesaurus – develop.codethesaur.us
A polyglot developer reference tool to help you compare languages you know with ones you don't for reference or learning. An open-source application that's in progress and nearing an MVP.

Rest of Us in Tech – restofus.tech
The Rest of Us in Tech is an inclusive initiative for the tech community which highlights projects and accomplishments of underrepresented people in tech. I'm the founder and host of the podcast, currently available on iTunes, Google Play, and most other podcast apps.

Hardware Projects and Robotics
I am presently mentoring a FIRST Robotics Challenge team of all girls based out of Carnegie Mellon University. In my past, I was involved in my university's robotics competition team for several years. I also mentored other middle and high school FIRST robotics competition teams in my last city. (All teams won numerous awards and one middle school team went to the world championships.) I have continued to tinker with hardware projects on the side to this day, and make my code and diagrams available on GitHub.

Speaking and Conferences

I love sharing what I learn with the developer communities as well as people interested in getting started programming. I have been speaking, teaching, and mentoring in many forms since 2011. Besides local classes and workshops, I have spoken and keynoted at over 60 events locally, nationally, and internationally. I have organized multiple events and conferences as well. All of my notes, videos, and slides can be found at geekygirlsarah.com/speaking .

Conference and Meetup talks:
- "Building an Open Source Artificial Pancreas" (keynote))
- "Doors" (keynote)
- Emcee for Heartifacts
- "Intro to Hacking with the Raspberry Pi"
- "A Primer on Functional Programming"
- "Building Your Team to Last: Successful Onboarding and Mentoring Practices"
- "'Hey Mycroft': Getting Started with the OSS Home Assistant"
- "Maintaining Your Mental and Emotional Health While Job Hunting"
- "Pursuing a Passion Project: Struggles and Successes"
- "The Power of Secrets"
- Multiple discussion panels and lightning talks

Workshops and Classes:
- Workshops and classes with local meetups and women in tech organizations
- Arduino, Raspberry Pi, hardware, and programming workshops
- Elementary, middle, and high school visits teaching circuits, showing off robots, and talking STEM jobs

Conference Organizing and Volunteering:
- Organizer, Heartifacts 2020 (TBD)
- Director of Programming, Abstractions 2 (Aug 2019)
- Conference Chair, Missouri, Iowa, Nebraska, Kansas Women in Computing (Oct 2013, Oct 2015, Nov 2017)
- Volunteer, Strange Loop (Sept 2016, Sep 2017, Sep 2018)
- Organizer, Society of Women Engineers Region *i* (Feb 2015)

Education

University of Missouri-Kansas City, Bachelor of Science in Computer Science