


Wesley Kerfoot


Links

 GitHub

 LinkedIn

Contact Information

 (519) 807-9688

 wes@wesk.tech

 Ontario, Canada

Bio

I have over a decade of experience in software development, including full stack and web development, DevOps, systems programming, embedded, database development and many other areas of software. I also have experience working on financial and healthcare related systems, which require a high degree of reliability and correctness. In my free time I enjoy building electronics projects and creating designs for 3D printing.

Work Experience

Senior Software Developer, Altis Labs (August 2023 - Present)

- Worked on building, deploying and running a machine learning pipeline that processes millions of medical images using Python, Ray, and K8s.
- Wrote terraform and packer code to manage infrastructure for CI and our data layer which is used by the ML pipeline.
- Built a test suite for all of the core libraries and models, using Github Actions and running on self-hosted AWS instances, enabling other developers to have more confidence when merging changes.
- Created a system to deploy our in-house RayServe cluster to run on Slurm, which is a workload management system that runs on large computing clusters.
- Worked on a system to track costs using AWS and OpenCost in order to track cloud costs.
- Skills: *Ray, Linux, Python, Terraform, AWS, Kubernetes, Git, Slurm*

Senior Software Developer, ShyftLabs (Feb 2023 - July 2023)

- Created and designed Terraform code to automate the deployment of an e-commerce application running on AWS. I also wrote extensive documentation for the system.
- Spearheaded the implementation of frontend UI automation tests (Playwright) and unit testing in Python using pytest.
- Worked on the backend (Python, Postgres) and frontend (JS, React) of enterprise e-commerce software designed to manage product prices for a large retail company.
- Skills: *React, Linux, Python, PostgreSQL, TypeScript, JavaScript, Terraform, AWS, AWS ECS, Git, Playwright*

Senior Software Developer, Knox Custody (Feb 2020 - Feb 2023)

- Worked on updating the cryptocurrency custody system to use a new protocol version of Bitcoin (Segregated Witness), as well as making improvements to the test suite. I also worked on the signing system which used the PKCS11 protocol to interface with Yubikey devices.
- Worked on an Electron based frontend for end-users in TypeScript using React, mainly adding new features and overhauling the UI for submitting transactions.
- Developed an automated system for calculating and managing customer billing, which involved meeting requirements set by accounting, and generating monthly reports.
- Improved automated testing and build system reliability and speed. The entire system ran in a k8s cluster launched from Gitlab CI, and used containers built with buildah.
- Worked on the Postgres database which we used as the backend to manage the entire system (writing custom views, and using PL/pgSQL).
- Skills: *Redux.js, Docker, Linux, Python, C, PostgreSQL, React, TypeScript, Racket, Kubernetes*

Software Developer, MedStack (Sep 2017 - Feb 2020)

- Created automated and repeatable server deployments in ansible and terraform that comply with healthcare privacy regulations (e.g. HIPAA)
- Helped build a self-serve platform for customers to launch containerized workloads, and deployed infrastructure to monitor server availability and integrity using a system I designed in Python, Ruby, and Elasticsearch.
- Designed and created a system to automate the collection of infrastructure compliance information, using AWS and Azure APIs, which lead to the company becoming HITRUST compliant.
- Skills: *AWS, Azure, Docker, Terraform, Linux, Python, Elasticsearch, docker containers, Ruby, ansible*

Web Developer, Canada Coaster Inc. (Aug 2016 - Aug 2017)

- Created and designed a prototype search API backend for a large e-commerce prototype, using Python and Elasticsearch.
- Automated and managed application deployment and testing using ansible on Google Compute Engine
- Set up the team's internal code repository and worked on the company's order system.
- Skills: *Linux, Python, Elasticsearch, Linux System Administration, Vue.js, PHP, Git, MySQL*

Software Developer, Eatable (Oct 2015 - Sep 2016)

- Co-founded a company accepted into The Forge, a startup incubator located in Hamilton, Ontario.
- Developed a minimum-viable product and enabled further development of a mobile recipe search platform using React Native and Elasticsearch
- Built a prototype API backend in Haskell to serve the frontend mobile app. The system also used protobuf to communicate with the frontend.
- Skills: *Linux, Elasticsearch, Haskell, React Native, Protocol Buffers, Android*

Working Group Co-Founder, OPIRG McMaster (Sep 2015 - Apr 2016)

- Ran a non-profit working group with the Ontario Public Interest Research Group to promote Open Educational Resources
- Created a search engine using Python and Elasticsearch to index courses at the university and match them with cheaper books from Open Library. I was invited to give a talk about the system at OpenCon Toronto, a conference related to open educational resources.
- Skills: *Python, Elasticsearch, Flask, Riot.js, WordPress*

Research and Teaching Assistant, McMaster University (May 2014 - Dec 2014))

- Worked on a research project with Dr. Christopher Anand and another student to create an automated algebra system for simplifying expressions with applications in MRI image analysis and optimization
- Developed a term-rewriting system using the Knuth-Bendix algorithm for simplifying math expressions
- More information can be found in this Google tech talk regarding the overall system: <https://youtu.be/yHd0u6zuWdw>
- Worked with students in labs to help them complete assignments and understand problems, and graded assignments exams.
- Course outline available at <http://www.cas.mcmaster.ca/~anand/CS1JC32014.html>
- Skills: *Haskell, Research, Algorithm Design, Computer Science*

Full Stack Developer, Monstercat (Jun 2013 - Sep 2013)

- Created a prototype for a web-based crowdfunding tool and the back-end on WordPress and MySQL
- Designed and implemented a content aggregator in Haskell to download event information from various APIs, and populate it using the Wordpress XML-RPC endpoints.
- Built a mass emailing tool in Python to notify users of upcoming concerts, using the sendgrid API.
- Skills: *Linux, Python, JavaScript, Haskell, MySQL, PHP*

Education

- McMaster University - Hamilton, ON – *Honours Bachelors, Philosophy*: Sep 2012 - Jun 2016