

Josh Heinrichs

Software Engineer, DevOps

Address redacted for web version

Phone redacted for web version

joshiheinrichs@gmail.com

github.com/joshheinrichs

Experience

Siemens EDA

Software Verification Lead

Release Manager

Software Engineer

Saskatoon

Dec. 2017 – Present

May 2017 – Dec. 2017

May 2016 – May 2017

Currently working in a variety of areas with a focus on improving software quality, infrastructure efficiency, and developer productivity. Responsibilities and achievements include:

- Managing a high performance computing cluster with several thousand nodes. Set up monitoring and analytics, and identified and resolved a kernel issue speeding up disk access by >40x.
- Leading an 8 person verification team, designing automated tests, benchmarks, and supporting tooling for software with elements of machine learning, parsing, and many third-party integrations.
- Building a test harness which reduced test runtimes from 4 hours to under 30 minutes, while improving flexibility, usability, and reproducibility.
- Creating a pull request system which handles a large monorepo with complex branching patterns used by multiple teams with independent release cycles.
- Overseeing releases of Variation Designer, a product used by many of the world's largest semiconductor companies. Overhauled development processes to increase frequency and quality of releases.
- Extending build and test infrastructure, adding ARM64 support.
- Driving adoption of Docker in testing infrastructure, improving reliability and execution environment coverage.
- Closely collaborating with teams distributed across multiple continents.

University Of Saskatchewan

Undergraduate Researcher – Algorithms

Saskatoon

May 2015 – Aug. 2015

Developed a Java application which allowed users to create and analyze Delaunay triangulations, and investigated into properties of restricted Delaunay triangulations.

University Of Saskatchewan

Undergraduate Researcher – Software Engineering

Saskatoon

May 2014 – Aug. 2014

Improved the quality of a large Java-based health model developed at Columbia University. Set up version control and continuous integration, and added documentation and testing.

Education

University of Saskatchewan

B.Sc. Honours Software Engineering

Saskatoon

Sept. 2012 – April 2016

Graduated with high honours. Gravitated towards algorithms, programming languages, concurrent programming, and networking.

Skills

Languages – Experienced

Python, Go, Groovy, Bash, SQL

Languages – Familiar

Java, JavaScript, HTML, CSS, C#, C, C++, Rust

Tools

Git, Jenkins, Docker, Podman, JIRA, Slack, Grafana, InfluxDB, Telegraf, Ansible, Make, Redis, SQLite, PostgreSQL, Jupyter, SGE, LSF, strace

Frameworks

Qt, Squish, Flask, Angular, Polymer, Swing

Operating Systems

Linux, Windows, OS X

Hobbies

Baking, Swimming, Boardgames

Projects

TJ Chess – 2021

Python, PyTorch

Currently building a neural-network-based chess engine with a fierce early game.

GeoSource – 2016

Go, JavaScript, HTML, PostgreSQL

Developed a web application that allowed users to collect, explore, and comment on photos and other data overlaid on a Google map. Created as a university honours project.

Mumble Jukebox – 2015

Go

Built a VoIP bot that could stream music and be controlled via chat commands.