

Shane Hickman

shanehickman.com
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3A Software Engineering
University of Waterloo

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Skills

- **Languages:** Java, Kotlin, Go, Rust, C#, C, C++, Scala, PHP, JavaScript, HTML, CSS
- **Technologies:** Git, AWS, MySQL, MongoDB, REST, Ansible, Hibernate, Spring, Gradle, JUnit, Docker, Kubernetes, Prometheus, Datadog, JWT, SocketIO, NGINX, MVC, Unity3D, JQuery, UNIX, gh-ost

Experience

Backend Developer

Kitchener, ON

Sept – Dec 2018

Faire

- Architected an inter-server event framework using Amazon Kinesis and Protocol Buffers.
- Implemented several complex email cadences to promote and notify users of new features, with visualized A/B tests for subject lines and content.
- Designed and implemented APIs to support offline ordering, retailer-to-maker referrals, and out-of-stock products, contributing to user acquisition and an overall increase in sales.
- Added web-hooks to push logged errors into Redshift, supporting more complex error analysis.
- Mentored and on-boarded new backend developers as the team nearly doubled in size.
- Integrated code coverage tracking into TravisCI to motivate better testing practices.

Software Developer

New York, NY

Jan – Apr 2018

Spatial Systems

- Proposed and implemented a scalable and load-balanced backend architecture for user-management, real-time messaging, and data synchronization on AWS, written in Go.
- Introduced stateless authentication and role-based authorization mechanism using JSON Web Tokens.
- Developed platform agnostic .NET web socket and http implementations for multi-threaded API clients.
- Added DevOps functionality through role-based authorization, metrics (Prometheus + Grafana), and deployment scripts for all servers (Ansible).

Software Developer

Kitchener, ON

May – Aug 2017

Miovision Technologies

- Independently wrote a performant API to export large amounts of data from Hibernate to AWS.
- Refactored the data extraction workflow to parallelize tasks, increase accuracy, and pave the way for future cost savings initiatives.
- Deployed metrics agents to monitor download speeds and cache performance of satellite servers.

Projects

Context-Free Language Formatter (Rust)

2018 – present

- Wrote library to efficiently format text using a CFG and a set of patterns.
- Implemented multi-threaded cli wrapper to batch-format projects (directories) using diff tracking.
- Created a specification language for generating lexers and parsers at runtime.

2D procedural side-scroller using Unity Game Engine (C#)

2017

- Wrote scalable node-based pathfinding algorithm capable of supporting hundreds of concurrent agents.
- Created performant data structures as a powerful base for bounded random generation.

www.photesto.space as a database for sharing study resources (PHP, Java, MySQL)

2015 and 2016

- Created login system with encryption and email verification to protect user data.
- Styled website responsively for optimal performance on both desktop and mobile devices.

Education

Candidate for Software Engineering Degree

Waterloo, ON

Sept 2016 – present

University of Waterloo class of 2021 Cumulative GPA of **94.29**