Shane Hickman

shanehickman.com   2B Software Engineering   srhickma@edu.uwaterloo.ca
github.com/srhickma   University of Waterloo   Cell 226-792-4763

Skills

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

Experience

Software Developer   New York, NY   Jan – Apr 2018
Spatial Systems Inc.
- 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.
- Wrote memory efficient Google Poly wrapper to rank and page results based on keywords.
- Added DevOps functionality through role-based authentication, Prometheus metrics, and Ansible deployment across all servers.

Software Developer   Kitchener, ON   May – Aug 2017
Miovision Technologies Incorporated
- Independently wrote a performant and self-contained API to export large amounts of data from Hibernate + JPA (through pagination and streaming) to AWS.
- Refactored the data extraction workflow to parallelize tasks, increase accuracy, and pave the way for future cost savings initiatives.
- Introduced Datadog agents to satellite servers to monitor download speeds and cache performance.
- Worked closely with computer vision team to determine specifications and integration details of new software and the data export API.

Projects

Context-Free Grammar Formatter (Rust)   2018
- Wrote formatter to reconstruct arbitrary parse trees following pattern specifications.
- Created specification language for generating lexers and parsers from DFAs and CFGs at runtime.

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

Text based process manager for boosting productivity (Java(FX), Gradle)   2017
- Modified and embedded open source JetBrains terminal emulator JediTerm into the core application.
- Created a command framework for executing various local processes through a terminal prompt.

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.

Awards and Accomplishments

Schulich Leader Nominee   National   2016
One of 1500 grade 12 students chosen from across Canada to compete for 50 Schulich Leader Scholarships

Euclid Math Contest; CSMC School Champion: *top marks for Crossley Secondary*   2014 to 2016
Niagara Regional ECOO Programming Competition: *placed in top 3 each year*   2014 to 2016

Education

Candidate for Software Engineering (BSE) Degree   Waterloo, ON   start date: September 2016
University of Waterloo class of 2021 Cumulative GPA of **94.33**