Shane **Hickman**

3B Software Engineering · University of Waterloo

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Skills

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

Experience

YugaByte   *Sunnyvale CA, USA*
Software Engineer Intern   *May - Aug 2019*
- TODO

Faire   *Kitchener ON, Canada*
Backend Developer Intern   *Sept - Dec 2018*
- 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.

Spatial   *New York NY, USA*
Software Developer Intern   *Jan - April 2018*
- 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 authorization, metrics (Prometheus + Grafana), and deployment scripts for all servers (Ansible).

Miovision   *Kitchener ON, Canada*
Software Developer Intern   *May - Aug 2017*
- 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.
- Deployedmetrics agents to monitor download speeds and cache performance of satellite servers.

Projects

dead-drop   *Go*
Secure nonce file transfers in the cloud   *May 2019 - present*
- TODO

padd   *Rust*
Fast and Automatic Formatter of Context-Free Languages   *March 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.

to_be_discovered   *C#*
2D procedural side-scroller using Unity Game Engine   *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.

lens   *Java*
Text-based process manager for boosting productivity   *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

PHP, Java, MySQL

DATABASE FOR SHARING STUDY RESOURCES

2015-2016

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

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PHP, Java, MySQL

DATABASE FOR SHARING STUDY RESOURCES

2015-2016

- 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

University of Waterloo · 94.24 Cumulative GPA

Waterloo ON, Canada

CANDIDATE FOR BACHELOR OF SOFTWARE ENGINEERING

Sept 2016 - April 2021

E.L. Crossley Secondary School · 98.5 Cumulative GPA

Fonthill ON, Canada

ONTARIO SECONDARY SCHOOL GRADUATION DIPLOMA

Sept 2012 - June 2016

Honors & Awards

1A - 3A	**Dean's Honours List**, University of Waterloo	*Waterloo ON, Canada*
2019	**President's International Experience Award**, University of Waterloo	*Waterloo ON, Canada*
2017	**President's Scholarship of Distinction**, University of Waterloo	*Waterloo ON, Canada*
2016	**Nominee**, Schulich Leader Scholarship	*Canada*
2016	**3rd Place**, Regional ECOO Programming Competition	*Niagara ON, Canada*
2015	**2nd Place**, Regional ECOO Programming Competition	*Niagara ON, Canada*
2014	**2nd Place**, Regional ECOO Programming Competition	*Niagara ON, Canada*
2012	**Gold Medal**, Canada-Wide Science Fair	*Charlottetown PEI, Canada*
2012	**Junior Innovation Award**, Canada-Wide Science Fair	*Charlottetown PEI, Canada*
2012	**Western University Scholarship**, Canada-Wide Science Fair	*Charlottetown PEI, Canada*
2012	**Gold Medal**, Niagara Regional Science and Engineering Fair	*Niagara ON, Canada*
2011	**Gold Medal**, Niagara Regional Science and Engineering Fair	*Niagara ON, Canada*

Volunteering

Tutor

Fonthill ON, Canada

E.L. CROSSLEY SECONDARY SCHOOL GUIDANCE DEPARTMENT

Fall 2014 - June 2016

- Tutored grade 9, 10, 11, and 12 students in math, science, and computer science courses.

Camp Volunteer

St. Catharines ON, Canada

YOUTH UNIVERSITY & NIAGARA REGIONAL SCIENCE AND ENGINEERING OUTREACH CAMPS

July 2012 and 2013

- Collaborated with camp directors in presenting programs.
- Mentored and encouraged camp participants.