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Skills.

**Languages** Java, Rust, Go, Kotlin, C, C++, C#, Scala, PHP, JavaScript

Technologies MySQL, MongoDB, REST, Hibernate, Spring, JUnit, JWT, SocketlO, NGINX, MVC, Unity3D, JQuery

AWS, Ansible, gh-ost, Docker, Prometheus, Datadog, Git, Gradle, UNIX, JWT

# **Experience**

YugaByte 🗹 Sunnyvale CA, USA

#### SOFTWARE ENGINEER INTERN · C, C++, JAVA

May - Aug 2019

· Member of Query Layer team, working to integrate Postgres fronted with distributed document store backend.

- · Wrote robust and portable shared memory library to improve system catalog cache consistency across nodes. · Added support for Postgres role-based access control, ensuring consistency in a distributed environment.
- · Designed and implemented a gflag-based configuration mechanism to make Postgres configurable through YugaByte.
- Added support for various ALTER TABLE variants in Postgres.
- Refactored post-test cleanup process to reduce flakiness and increase test speed.
- Contributor on multiple open-source projects at YugaByte, including yugabyte-db .

Faire 🗹 Kitchener ON, Canada

#### BACKEND DEVELOPER INTERN · JAVA, KOTLIN

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 · Go, C#

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 [₹]

### SOFTWARE DEVELOPER INTERN · JAVA

Kitchener ON, Canada

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.
- Deployed metrics agents to monitor download speeds and cache performance of satellite servers.

# **Projects**

## dead-drop 🗹 SECURE NONCE FILE TRANSFERS IN THE CLOUD

May 2019 - present

• Created tool for securely transferring files via an untrusted middle-man server.

- Utilized AES-CTR with HMAC to encrypt and authenticate user data on the client side.
- · Implemented client-server authentication using asymetric key cryptography and Json Web Tokens.

## padd 🗹 FAST AND AUTOMATIC FORMATTER OF CONTEXT-FREE LANGUAGES

Rust

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# 2017

2D PROCEDURAL SIDE-SCROLLER USING UNITY GAME ENGINE

- · 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.

SHANE HICKMAN · CURRICULUM VITAE SEPTEMBER 3, 2019

lens 🖸 2017

#### TEXT-BASED PROCESS MANAGER FOR BOOSTING PRODUCTIVITY

- 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.

photesto.space 🗹 PHP, Java, MySQL

DATABASE FOR SHARING STUDY RESOURCES

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

2015-2016

## **Education**

Candidate for Bachelor of Software Engineering • 94.24 Cumulative GPA

**UNIVERSITY OF WATERLOO** 

Ontario Secondary School Graduation Diploma · 98.5 Cumulative GPA

E.L. CROSSLEY SECONDARY SCHOOL

Waterloo ON, Canada Sept 2016 - April 2021

Fonthill ON, Canada

Sept 2012 - June 2016

# Honors & Awards

1A - 3A	<b>Dean's Honours List</b> , 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	<b>3rd Place</b> , 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 Fall 2014 - June 2016

E.L. Crossley Secondary School Guidance Department

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

**Camp Volunteer** 

YOUTH UNIVERSITY & NIAGARA REGIONAL SCIENCE AND ENGINEERING OUTREACH CAMPS

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

St. Catharines ON, Canada

July 2012 and 2013