

# Justin Michaud

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## TECHNOLOGIES

- Java
- Scala
- Rust
- C++
- MySQL
- Kafka
- Android
- OpenGL

## INTERESTS

- Free & Open Source Software
- Distributed Systems
- Graphics
- Emulation
- Databases
- Rust

## HOBBIES

- Oboe with UW Orchestra
- Playing Commodore 64
- Biking and Unicycling (barely)
- Collecting old Macs

## EDUCATION

### UNIVERSITY OF WATERLOO 2B COMPUTER SCIENCE

Sept 2016 - June 2021

Waterloo, ON

## EXPERIENCE

### PAGERDUTY, SOFTWARE ENGINEERING INTERN Jan 2018 – April 2018 Kafka, Scala, Akka | San Francisco, CA

- Dramatically reduced database locking and load by developing replacement for service that published records to Kafka from MySQL
- Contributed recovery features/bugfixes to open source Maxwell MySQL binlog-to-json publisher, built Scala/Akka Streams service to allow filtering and fanout of messages to multiple clusters
- Added OAuth support and other improvements to new Scala/Akka backend for frontend service

### PAGERDUTY, SOFTWARE ENGINEERING INTERN May 2017 – Aug 2017 Ruby, MySQL, EmberJS | Toronto, ON

- Optimized MySQL queries, added indexes and denormalized columns allowing incidents dashboard to support millions of incidents, without any maintenance downtime
- Implemented incident priority editing and mobile support using ruby, EmberJS and iOS/Android SDKs

### YMCA, SOFTWARE DEVELOPMENT ASSISTANT Jun 2014 – Aug 2016 Java, PHP | Sudbury, ON

- Built low-bandwidth remote support tool using UDP hole-punching to tunnel TCP connections without port forwarding

## SELECTED PROJECTS

More at [justinmichaud.com](http://justinmichaud.com)

### ANYSOFTKEYBOARD CONTRIBUTOR Java, C++, Android, JNI

- Contributed gesture typing feature to create first open source swipe keyboard for Android
- Compares input path to simulated paths, measuring distance along path to find most likely word

### RUST NES EMULATOR Rust, 6502 ASM

- Created NES emulator capable of playing Super Mario Bros. and Donkey Kong to learn rust; Passes NESTest test rom
- Included game modifications not possible on original hardware by hooking into memory reads/writes and import/export support for Super Mario Bros. levels

### GLIDEN64 C++, OpenGL

- Created patch adding stereo rendering and google cardboard support to GlideN64 Nintendo 64 graphics plugin
- After projection matrix is applied but before perspective divide it applies eye translation, avoiding toe-in artifacts

### VR SPACE SHOOTER Java, OpenGL, BoofCV

- Google Cardboard shooter game using head tracking to allow player to shoot enemies and dodge obstacles
- Uses OpenGL for rendering, BoofCV on a laptop to track the position of player's head