

# Daniel Prilik

Software Developer

## CONTACT

✉ daniel@prilik.com  
🌐 prilik.com  
🔑 daniel5151

## SKILLS

### LANGUAGES & FRAMEWORKS

C++  
C  
Rust  
SDL2  
node.js  
HTML5 + CSS  
JavaScript (ES6)  
Typescript  
React & React Native  
Objective-C

### TOOLS

Unix  
CMake  
Git  
Sublime Text  
Travis & Appveyor CI  
Visual Studio  
Perforce  
Unreal Engine 4  
Wwise

## EDUCATION

University of Waterloo  
BSE Software Engineering  
2015 - 2020

## INTERESTS

Exploring Music  
*Fan of Modern Rock, Psych Rock, Synthwave, Funk, and more!*

Emulation  
*I keep up with the scene, and enjoy writing my own*

PC Gaming & VR  
*PUBG, Rocket League, and Fallout are fantastic. I also own a Oculus Rift!*

Memes  
*I'm a millennial `\\_(\`)\_/`*

## EMPLOYMENT

### Apple Inc.

Platform Architecture Engineer - C, C++, Objective-C, Python

Cupertino, CA  
Summer 2018

- Replaced hundreds of large, autogenerated modules with a single small configurable module
- Collected statistics, modeled best/worst-case scenarios, and proposed possible implementations
- Deleted >100,000 LOC from project, reducing compile-time by 30%, and improving maintainability
- Analyzed final implementation, confirming that performance met / exceeded initial estimates
- Coordinated across teams to develop a long-term support plan for the feature

### Microsoft - The Coalition

Audio Engineer on *Gears 5* - C++, Unreal Engine 4, Wwise

Vancouver, BC  
Winter 2017

- Orchestrated a large audio data migration, greatly improving project maintainability
- Identified and intelligently grouped similar assets, reducing asset duplication by a factor of 11x
- Exposed advanced Wwise functionality in the UE4 editor by creating custom UI components, substantially improving audio artist workflow

### LCBO|next

Full Stack Web Developer - React, React Native, node.js, Mapbox, Sass

Kitchener, ON  
Summer 2017

- Spearheaded the design and development of a complex React SPA
- Architected several RESTful APIs, and assisted in the development of the node.js backend
- Communicated sales-data in React and React-Native using popular dataviz libraries and custom SVG

### Polar.me

Front End Web Developer - HTML5, Sass, JS, node.js

Toronto, ON  
Summer 2016

- Designed and implemented Native Ads for clients such as Engadget, Wired, and AOL
- Engineered and deployed a build system to streamline and automate Native Ad development

## PROJECTS

### ANESE + wideNES - prilik.com/ANESE

- Created a cross-platform Nintendo Entertainment System (NES) emulator in C++11 with SDL2
- Compiles on Windows, macOS, and Linux, with nightly builds available from Travis CI and Appveyor
- Designed *wideNES*, a novel technique to automatically map-out worlds and levels in NES games
- Compatible with many popular NES titles, such as *Super Mario Bros.*, *Legend of Zelda*, *Metroid*, and more

### mips241 - prilik.com/mips241

- Architected and implemented an emulator for the MIPS system used in CS 241 at Waterloo
- Features a interactive debugger with step-by-step execution, breakpoints, and instruction disassembly
- Explored compiling C++ to JavaScript using *emscripten* to create a Web interface for the emulator

### nfinite.space - devpost.com/software/nfinite-space

- Imagined a cloud file-storage service that could store files without the need for a data-center
- Implemented a protocol to leverage space from connected users to store parts of other users' files
- Developed a proof-of-concept at Hack the North 2016 with a Go backend, and a React frontend
- Winner of the AWS Sponsor Prize

## AWARDS AND RECOGNITION

### wideNES Press Coverage

Authored a *blog post* about the inner-workings of *wideNES*, which was featured on *Ars Technica*, *Hackaday*, *Hacker News*, *Kotaku*, and several other sites

### Winner of the Amazon Web Services (AWS) Sponsor Prize

Hack the North 2016, QHacks 2017

For work on *nfinite.space* and *fastify* [github.com/Melinysh/fastify] respectively