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# Gabriel Klavans

Computer Scientist

Website: [dabe.tech](http://dabe.tech)  
GitHub: [gabeklavans](https://github.com/gabeklavans)  
LinkedIn: [gabrielklavans](https://www.linkedin.com/in/gabrielklavans)

Loves exploring solutions using signal processing, developing software for audio/music, and being thoughtful about process and impact. Multi-instrumentalist with a passion for music, video games, and free, open source technology for all.

## SKILLS

**Languages** JavaScript/TypeScript, Python, C++/C, Java,  $\text{\LaTeX}$ , Rust, C#  
**Tools and Environments** Git, NodeJS, CMake, VSCode, Docker, MongoDB, Jenkins, GTest, ReactJS, Mocha/Chai

## PROFESSIONAL EXPERIENCE

### SOFTWARE ENGINEER (C++/Android/Python/Matlab)

Sept 2022 — Present

*Yobe Inc.*

*Boston, MA*

- Implement audio signal processing algorithms in C++ that were developed in Matlab
- Tweak signal processing algorithms for efficiency and code-completeness in Matlab
- Write testing in GTest and support scripts in Python
- Participate in design and business discussions in a fast-paced startup environment
- Help develop an Android app to package Yobe's core library

### ASSOCIATE SOFTWARE ENGINEER (C/C++/C#)

Sept 2021 — Sept 2022

*Canon USA, Healthcare Optics Research Lab*

*Cambridge, MA*

- Completed component for uploading firmware to STM32 ARM chips within our proprietary application
- Prototyped and collaborated on a Jenkins automated build-server for use in multiple projects
- Created documentation for software component specification and verification for use in our quality management system
- Created a test suite for a proprietary serial communications library using GoogleTest
- Performed iterations of bug-detection/fixing on a complex architecture written by multiple engineers over the span of years

### FULL STACK JAVASCRIPT ENGINEER (JavaScript/Typescript)

(Intern) Aug 2020 — Apr 2021 / (Full-time) Apr 2021 — Sept 2021

*Tapple*

*Boston, MA*

- Contributed to every level of the stack: AngularJS, SailsJS (NodeJS wrapper), MongoDB
- Spearheaded feature involving PhaserJS-based customizable browser games
- Worked closely with technical lead to discuss architecture and design goals for the product
- Took charge of style/static analysis tools for code-base

## PROJECTS

### CORPORATE CLASH GAME DEVELOPER (Python/C++)

December 2022 — Present

*Toontown-inspired non-profit free-to-play MMO*

[corporateclash.net](http://corporateclash.net)

- Improved the build-process and dev-environment through various means, such as augmenting developer workflow and fixing issues with the back-end build process and source code regressions
- Fixed bugs and implemented features using Panda3D, a Python-based game engine, and Astron, an MMO-focused server architecture

### PITCH DETECTION DIRECTED STUDY (Academic)

[gabeklavans/computational-audio](https://gabeklavans.computational-audio)

*Directed study with Prof. Wayne Snyder (Boston University) in fundamental frequency ( $F_0$ ) detection*

- Studied and implemented several  $F_0$  detection methods, such as autocorrelation, YIN, and cepstral

### NUMPADULATOR (Personal)

[gabeklavans/Numpadulator](https://gabeklavans/Numpadulator)

*Designed-from-scratch mechanical numpad*

- Designed case/plate fixtures in Fusion360
- Designed and assembled PCB from scratch using KiCad
- Runs on a slightly modified version of QMK, a C-based open-source keyboard firmware

## EDUCATION

**Master of Science in Computer Science**, *Boston University*

Sept 2020 — May 2021, 3.83 GPA

**Bachelor of Arts in Computer Science**, *Boston University*

Sept 2017 — May 2021, 3.83 GPA

**Minor in Music (Theory)**, *Boston University*

## ACTIVITIES

**BU Bands Member**, *Boston University*

2017 — 2021

**Xylo & Drumset Player** *Spartans Drum & Bugle Corps*

2018, 2019 (Gold Medalists)

**Discrete Mathematics Course Assistant** *Boston University*

Spring, 2020