

# Gaelan McMillan

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## Education

### Bachelors of Science, Computer Science

Toronto Metropolitan University

Toronto, ON

09/2020 - 05/2025

## Technical Skills

**Programming** C++, Python, Java, JavaScript, TypeScript, HTML, CSS

**Frameworks** JUCE, SDL2, Processing, NumPy, LaTeX

## Work Experience

### Software Content Developer

PG Music Inc.

Victoria, BC

10/2015 - 11/2020

- Created and edited hours of musical content for integration into a mature software product
- Fixed bugs in 800+ musical transcriptions per year to ensure an accurate experience for users
- Successfully met deadlines to release software content updates over 5 yearly release cycles
- Represented PG Music and showcasing company software at the National Association of Music Merchants trade show in Anaheim, California in 2017

### Composer and Musician

Self-Employed

North America and Europe

01/2013 - Present

- Performing 500+ shows as a bassist across the United States, Canada, Iceland and Denmark for 1000+ person audiences
- Communicating with people of varying technical backgrounds to meet the needs of musical projects
- Collaborating remotely and in person with teams of up to 10+ artists to create polished artworks
- Adapting to changing requirements and priorities of gigs as a member of a touring band
- Learning and memorizing hours of complex musical arrangements through regimented practice

## Software Projects

### Wavey

Musical Discord Bot for RUHacks, Python

[Github Repository](#)

04/2022

- Coding and managing the deployment of an interactive bot using Python and best practices of modular, Object Oriented design
- Creating an ear-training game using voice channels and message objects from the ground up, including recording and labeling 70+ chords

### Dub Dragon

Graph-based Musical Sequencer, JavaScript and C++

[Web Demo](#)

05/2022 - Present

- Creating a rapid web prototype using JavaScript to gauge the feasibility of the project
- Designing and analyzing algorithms to ensure reliability in the soft-real time domain of digital audio
- Unit testing to enable an agile debugging process when iterating on the application

## Volunteer Experience

### Cpp North 2022

Conference Volunteer

Toronto, ON

07/2022

- Accommodated 200+ conference attendees in an equitable and inclusive manner
- Learned techniques on writing reliable, reusable and optimizable generic algorithms in modern C++ from Patrice Roy's workshop on Generic Programming
- Presented a lightning talk about the intersection of music composition and computer science

### TMU Competitive Programming Club

Member, Vice President since 06/22

Toronto, ON

09/2021 - Present

- Coordinating an 8+ member executive team in the planning of budgets and events for the upcoming academic year
- Competing on behalf of the TMU to solve challenging algorithmic problems in the International Collegiate Programming Contest
- Problem solving and writing readable solutions and editorials to share with club members