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ABOUT ME

I'm a web developer with a research-driven mindset and a sharp eye for structure, clarity, and user experience. With a PhD in Music Theory and a background in teaching, I bring analytical precision, strong communication skills, and a talent for making complexity usable—whether in code, content, or interface design.

I build full-stack applications using JavaScript, React, Ruby on Rails, Python, and SQL, with a focus on clean architecture and thoughtful design. I thrive in collaborative environments where attention to detail, clear documentation, and user-centered thinking drive development. My goal is always to create tools that not only work—but that teach, scale, and make knowledge easier to access.

SKILLS

Languages & Frameworks

Node.js | JavaScript | Ruby | SQL | Python | TypeScript | Express | Rails | React | Django | CSS
Tools & Technologies

Git | GitHub | Visual Studio Code | Tailwind | REST APIs | Mocha | Chai | RSpec | Cypress

Research & Analytical Tools

Microsoft 365 | Data Organization | Academic Research

Teaching & Communication

Curriculum Development | Lecturing | Public Speaking | Technical Writing

Soft Skills

Adaptability | Problem Solving | Critical Thinking | Collaboration

Languages

English (Bilingual) | Spanish (Bilingual) | German (Fluent) | French (Conversational)

EDUCATION

University of Toronto	Sep. 2019–June 2025
Doctor of Philosophy, Music Theory	
Lighthouse Labs	Sep. 2024–Dec. 2024
Diploma: Web Development	
University of Toronto	Sep. 2016–June 2018
Master of Arts, Music Theory	
Concordia University	Sep. 2012–June 2016
Bachelor of Fine Arts, Music Composition	

PROFESSIONAL EXPERIENCE

University of Toronto	Toronto, ON
Full stack Web Developer	Jan. 2026–present
• Designing and creating database for “Sonata form in European Concert Music (1815–1914).”	
• Developing a web application with a React frontend, integrated with a CMS-backed database to manage dynamic content efficiently.	

- Integrating a custom API to fetch and display structured content efficiently.

University of Toronto

Music Theory Sessional Lecturer

Jan.–Apr. 2026

- Simplified complex concepts for undergraduates, showcasing skills in breaking down technical problems.
- Led interactive lectures, fostering collaboration and critical thinking.
- Managed teaching assistants, ensuring consistency and quality.

University of Toronto

Full stack Web Developer

Toronto, ON
Feb.–Sep. 2025

- Designing and creating database for “European Refugee Musicians in Canada” online biographical dictionary.
- Developing a web application with a React frontend, integrated with a CMS-backed database to manage dynamic content efficiently.
- Integrating a custom API to fetch and display structured content efficiently.

University of Toronto

Music Theory Course Instructor

Jan.–May 2023

- Simplified complex concepts for undergraduates, showcasing skills in breaking down technical problems.
- Led interactive lectures, fostering collaboration and critical thinking.
- Managed teaching assistants, ensuring consistency and quality.

University of Toronto

Research Trainee

Mar. 2023–Jul. 2024

- Conducted in-depth research on music theory topics, and synthesized data for academic publication.
- Drafted and edited materials, paying attention to detail and clear documentation.

University of Toronto

Research Assistant

Jan. 2021–Mar. 2023

- Created and managed large datasets to support faculty research projects.
- Refined analytical methodologies through collaboration, fostering a problem-solving environment.

University Settlement Music & Arts School

Toronto, ON

Faculty Member and Theory Teacher Sep. 2018–Aug. 2021

- Tailored lessons to diverse skill levels, emphasizing adaptability to student needs.
- Assessed student progress and implemented targeted instructional strategies, achieving high exam pass rates.
- Used creative teaching methods to maintain student engagement and foster a collaborative learning environment.

HIGHLIGHTED PROJECTS

Harmonic Spiral Visualizer

Nov.–Dec. 2025

Scope: an interactive logarithmic spiral for visualizing musical ratios and frequency relationships in continuous space.

Tools: Node.js, React, JavaScript, SVG

Description:

- Designed batch input and keyboard-driven interactions for rapid exploration.
- Used SVG to create geometry and manipulable canvas.
- Created custom hooks to manage state of multiple features and functions.

Ratio Lattice Visualizer

Sep.–Nov. 2025

Scope: an interactive 3D canvas representing musical pitch structures organized by prime-factor relationships.

Tools: Node.js, React, JavaScript, SVG, Three.js

Description:

- Implemented multiple 3D lattice modes (cubic, radial, expanded) with real-time controls for scaling, rotation, and layout.
- Built custom scene management and geometry utilities to support dynamic updates and navigation between local and global lattices.
- Created custom hooks to manage state of multiple features and functions.

Harry Somers at 100 Symposium Website

Aug. 2025

Scope: a static conference website.

Tools: Node.js, 11ty static site generator, Tailwind CSS, Netlify forms and webhooks

Description:

- A simple event website using 11ty to generate html layouts and pages.
- Responsive design with Tailwind CSS.
- Includes registration with form submission and notification through Netlify servers.

ERMiC Online Biographical Dictionary

Feb.–Sep. 2025

Scope: a static content web application that allows users to perform custom searches and browse the dictionary's contents.

Tools: Node.js, React, JavaScript, Contentful CMS, Tailwind CSS, Jest

Description:

- Designed a CMS-backed database and built a React frontend to fetch data.
- Trained a team of editors to populate CMS database.
- Implemented a search bar with sophisticated search-filtering and navigation features.
- Created custom hooks to manage data, navigation, and rendering.
- Implemented comprehensive unit and integration testing with Jest framework.

Transformational Tonnetz

May 2025

Scope: a single-page web tool for visualizing and modelling musical progressions.

Tools: Node.js, React, Vite, TypeScript

Description:

- Used SVG for creating geometric tiling that user interacts with.
- Created multiple custom hooks to allow for different visualization options, dynamic zoom controls, and alternative usage mode.

Set Calculator

Mar.–Apr. 2025

Scope: a calculator for analyzing just-intonation pitch sets in different spaces.

Tools: Node.js, React, Python, JavaScript, Django

Description:

- Used Python and Django framework for calculations and computations in the backend.
- Used React and JavaScript for UI, state management, and data fetching from backend.

Express TinyApp v2.0

Jan. 2025

Scope: a multi-page web application for managing and sharing shortened URLs, emphasizing user permissions and database-driven data handling.

Tools: Node.js, Express.js, EJS, PostgreSQL, JavaScript, HTML, CSS, Chai

Description:

- Built RESTful routes for secure authentication, URL creation, and management.
- Designed dynamic, responsive EJS templates for a user-friendly experience.
- Configured PostgreSQL for reliable data storage and integrity.