PHOENIX PETTERSON

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EDUCATION

Springboard Certification
Software Engineering Track (Certified Aug 2023)
- Completed 800+ hours of software engineering curriculum
- Developed skills in front-end and back-end web development, databases, and data structures and algorithms
- Competent in HTML, CSS, JavaScript, DOM Manipulation, Event Driven Programming, Git/Terminal/Github, Unit Testing, AJAX, jQuery, Python, Flask, SQL and PostgreSQL, Node and Express, ReactJS

Washington State University - Pullman, WA
B.S. Mechanical Engineering (Graduated Dec 2017)

TECHNICAL PROJECTS

NoteWorthy
Deployed: https://noteworthy-play.onrender.com/
Github: https://github.com/PhoenixMP/Capstone-2
- Developed a captivating **desktop web application** to enable users to play a virtual piano game centered on note-accuracy timing, inspired by Guitar Hero
- Designed a **React** front-end, consisting of 5 pages and over 30 refactorable components
- Created a **custom API** using **Express.js** and **Node.js** to facilitate secure user login, score-saving, and retrieval of music data
- Engineered distinct **databases** for songs and user records utilizing **PostgreSQL**, enhancing data integrity and enabling a more modular and **scalable system design**
- Utilized **Python** to parse and regenerate MIDI files to populate the custom song database with MP3 and note data
- Employed **CSS** to craft an immersive homepage and implement user-interactive effects throughout the website to enhance visual appeal and interactivity
- Engineered an intricate, interdependent gameplay accuracy scoring system that utilizes **intercept-observer** design and dynamic scoring mechanics driven by user performance metrics such as score streaks and multipliers
- Engineered an algorithm to auto-generate gameplay from song data, ensuring easy integration of new songs and enhancing game scalability for a growing music library

Melodic
Deployed: https://melodic-play.onrender.com/
Github: https://github.com/PhoenixMP/Capstone-1
- Developed a dynamic **desktop web application** to enable users to jam to Spotify tracks and create melodies with their keyboard
- Designed front-end utilizing **HTM**L, **CSS**, and **vanilla JavaScript**, showcasing the ability to construct a 7-paged project from its foundational elements
- Designed the back-end with **Python**, **Flask**, and **PostgreSQL** to facilitate secure user login, melody-saving, and favoriting tracks
- Integrated the **Spotify API** via **HTTP requests** using the **Axios** client to 6 endpoints to develop the search, favorite, and play Spotify tracks features
- Engineered real-time melody interpretation from user-generated input during recording to accurately reproduce stored melodies during playback
- Designed and executed extensive **unit tests** covering multiple aspects of the website to ensure robustness, reliability, and expected functionality across the application

EXPERIENCE

Hargis Engineers Inc. - Seattle, WA
Mechanical Engineer (Jan 2018 – July 2022)
- Collaborated across multidisciplinary teams with architects, contractors, and other engineering disciplines to design and draft HVAC and plumbing systems for a diverse client base
- Performed HVAC load calculations for various building types
- Selected appropriate equipment to meet the needs of our client's cutting-edge spaces
- Drafted complex HVAC layouts using AutoCAD and Revit modeling software
- Curated and reviewed technical drawing packages

VOLUNTEER EXPERIENCE

Meetup Organizer - Greater Seattle Area
Local Women's Group (Sept 2022 – Current)
- Founder and organizer of the Meetup group 'Project Play' with 230+ members
- The mission is to grow and lead a local and diverse community of women who are seeking creative and enriching experiences