

Nathaniel Mastracci

linkedin.com/in/mastracci/ ✦ mastraccin.github.io

WORK EXPERIENCE

Research Assistant (AI/ML Development) Sheridan Centre for Applied AI	Jan. 2023 – Apr. 2024 Oakville, ON
<ul style="list-style-type: none">Developed an AI model using Python, TensorFlow, Pandas, and Jupyter Notebook for the classification of heart sound audio captured through an electronic stethoscope.Researched recent academic literature to refine the model, increasing accuracy to 75%.Published and presented an IEEE paper detailing our research efforts and development process.Communicated research progress through weekly meetings and detailed reports, ensuring effective collaboration within the team.	
Research Assistant (AI/ML Development) Sheridan Centre for Applied AI	May. 2022 – Aug. 2022 Oakville, ON
<ul style="list-style-type: none">Researched state-of-the-art voice cloning solutions, emphasizing cross-lingual capabilities, AI model effectiveness, and optimal dataset practices.Developed voice clones with Python and Pycaret, utilizing Wav2Lip to produce AI-generated lip-synced videos and explore practical applications of voice cloning technology.Presented key research insights with our industry partner, to address technical feasibility and align research outcomes with partner expectations.Delivered research updates during daily stand ups and collaborated on identifying and pursuing opportunities.	
Front-End Developer Claret Asset Management	Jul. 2019 – Apr. 2020 Montreal, QC
<ul style="list-style-type: none">Developed the front end of a client-onboarding web application using AngularJS, JavaScript and Bootstrap, creating extensive forms to manage client personal and financial information.Implemented form validation, error handling, and responsive UI features to enhance user experience and ensure reliable data input.Designed a SQL database in accordance with normalization principles to ensure data integrity and efficiency.Collaborated closely with domain experts to design and develop an application tailored to meet their specific needs and requirements.	

EDUCATION

Sheridan College Honours Bachelor Of Computer Science - Degree GPA - 3.32	2019 - 2024 Oakville, ON
Sheridan College Computer Systems Technician - Software Engineering - Diploma	2015 - 2017 Oakville, ON

TECHNICAL SKILLS

Languages: Python, JavaScript, Kotlin, HTML, CSS, SQL/PostgreSQL, C#, Java
Frameworks: AngularJS, React, Node.js, Express.js, Tailwind CSS, Bootstrap, .NET
Libraries: TensorFlow, NumPy, Pandas, PyCaret, Sci-kit learn
Developer Tools: Git, JIRA, Firebase, Jupyter Notebook

PROJECTS

Auditory Processing Disorder (APD) Reading Tool - Kotlin, React, Firebase, JIRA

- Created an assistive reading app for children with APD in Kotlin.
- Supported multiple functionalities to aid in users reading experience.
 - Leveraged Optical Character Recognition (OCR) to extract text from images and provide assistance through voice-to-text conversion and highlighting different parts of speech for improved comprehension.
 - Utilized AI to generate reading context problems for the user to practice reading comprehension.
 - Managed user authentication and data with Firebase Firestore.
- Implemented a web application with React to create and modify reading problems for use in the mobile app.
- Utilized Visual Paradigm and Figma to practice software design, creating comprehensive diagrams and documentation to ensure clarity and coherence throughout the development process.
- Led a 3 person team, facilitating communication through weekly stand up meetings and managing tasks using a JIRA board for streamlined project organization and progress tracking.

Collectors - React, Vite, Tailwind CSS, Node.js, Express.js, PostgreSQL

- Built a full-stack web application to manage Hot Wheels collections, reducing manual tracking and improving organization.
- Enabled users to quickly add cars by scanning UPC codes, streamlining the data entry process.
- Designed a responsive front end with React and Tailwind CSS for browsing and organizing collections.
- Developed a RESTful API with Node.js and Express.js, storing user collections in PostgreSQL for persistent data.

Portfolio Website - React, Vite, Tailwind CSS, Github Pages

- Designed and developed a responsive portfolio site to showcase projects and skills.
- Configured Vite build for static export and automated deployment to Github Pages.