

# Nathaniel Mastracci

mastraccin@gmail.com ❖ (905) 299-4413 ❖ Milton, ON ❖ [linkedin.com/in/mastracci/](https://www.linkedin.com/in/mastracci/)

---

## WORK EXPERIENCE

---

### Research Assistant

Jan. 2023 – Apr. 2024

Sheridan Centre for Applied AI

Oakville, ON

- Developed a machine learning model using Python and TensorFlow for the classification of heart sound audio captured through an electronic stethoscope.
- Conducted extensive research on recent academic literature to enhance the accuracy of the machine learning model in predicting heart sounds.
- Published and presented an IEEE paper detailing our research efforts in developing the model for heart sound classification.
- Communicated research progress through weekly meetings and detailed reports, ensuring effective collaboration within the team.

### Research Assistant

May. 2022 – Aug. 2022

Sheridan Centre for Applied AI

Oakville, ON

- 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.
- Tailored and presented key research insights with our industry partner, to address technical feasibility and align research outcomes with partner expectations.
- Shared research updates through daily stand-ups, fostering effective team collaboration.

### Front-End Developer

Jul. 2019 – Apr. 2020

Claret Asset Management

Montreal, QC

- 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

2019 - 2024

Honours Bachelor Of Computer Science - Degree

Oakville, ON

GPA - 3.32

### Sheridan College

2015 - 2017

Computer Systems Technician - Software Engineering - Diploma

Oakville, ON

## TECHNICAL SKILLS

---

**Languages:** Python, JavaScript, Kotlin, SQL, HTML/CSS, C#, Java

**Frameworks:** AngularJS, React, Node.js, .NET, Express.js, Bootstrap

**Developer Tools:** Git, JIRA, Firestore

## PROJECTS

---

### Auditory Processing Disorder (APD) Reading Tool

- Created an assistive reading app in Kotlin with multiple functionalities to aid in users reading experience.
  - Leveraged Optical Character Recognition (OCR) to extract text from images.
  - Provided assistance through voice-to-text conversion and highlighting different parts of speech for improved comprehension.
  - Managed application and user data with 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.