Stone Yang

647-580-9278 | stoneyang17@gmail.com | stoneyang.ca | [GitHub](#) | [LinkedIn](#)

EDUCATION

University of Toronto   **September 2022 - Present**

Bachelor of Applied Science in Engineering Science | Robotics Engineering Major

- 2x Dean's Honour List
- **Relevant Coursework:** Data Structures and Algorithms, Object Oriented Programming, Digital & Computer Systems, Calculus I, II, Vector Calculus, Linear Algebra, Ordinary Differential Equations, Engineering Design (Praxis)

EXPERIENCE

Sunnybrook Research Institute | Sunnybrook Sleep and Brain Health Laboratory   **May 2024 - Present**

Machine Learning Intern | Software Developer and Analyst   *(May 2024 - Aug 2024)*

- Collaborated with an associate professor to analyze actigraphy data for sleep/wake detection across 500+ patients using novel machine learning approaches
  - Developed software to automate analysis of model performance and improve the codebase
  - Improved model generalizability by 20% by optimizing input features and fine-tuning signal extraction processes
- Developed a machine learning model using TensorFlow to detect wear in actigraphy devices (Axivity, GENEActiv, ActiGraph) with 97% accuracy across 4000+ patient recordings
  - Optimized processing time by 20x, greatly improving efficiency and accuracy in nonwear detection and enhancing data processing workflow
- Built signal processing, data analysis and feature extraction programs with Python and R, and managed workloads with Slurm

Machine Learning Engineer | Part-time Researcher   *(Aug 2024 - Present)*

- Optimized performance of wear-detection ML model through hyperparameter tuning and cross validation
- Enhanced model generalizability by training an ensemble model through boosting to improve performance on problematic outliers by 90%
- Preparing findings for publication, contributing advancements to wearable sensor data analysis

UofT Web Dev | Canadian Institute for Theoretical Astrophysics (CITA)   **Jan 2024 - May 2024**

Full-stack Developer

- Developed a website with React and NextJS to provide information on current satellites in the CITA system
- Implemented and styling various web components utilizing various libraries (SplideJS, SwiperJS)

PROJECTS

Wave   **Oct 2023 - Present**

- Developed a Python computer vision program with OpenCV that allows users to control their computers through hand gestures
- Engineered, trained, and tested a machine learning algorithm with a Feed-Forward Neural Network using TensorFlow and Keras, achieving proficiency (95% accuracy) in recognizing over 20 distinct hand signs and actions
- Currently exploring alternative model architectures (LTSM, CNN) to improve model performance for complex gestures

ChefGPT   **Oct 2023 - Present**

- Utilized YOLOv8 and GPT-4-Vision API to develop an app that generates food recipes based on photos of the user's fridge
- Currently building a hosting web page with HTML, CSS, Django, and PostgreSQL

SKILLS

- **Languages:** Python, C, Java, HTML, CSS, JavaScript, TypeScript, MATLAB, Arduino, SystemVerilog, RISC-V Assembly, R
- **Tools/Frameworks**: TensorFlow, PyTorch, Keras, Slurm, React, NextJS, Django, PostgreSQL, Git/Github, Figma, OpenCV, Mediapipe, YOLOv8, Vercel, Railway, Stable Diffusion, Autodesk Inventor, Cura, Microsoft Word, Excel, Powerpoint, ModelSim