

Stone Yang

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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 (LSTM, 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