Mika Shaw

Contact Information

m24shaw@uwaterloo.ca

Links

GitHub Profile
LinkedIn Profile
Personal Website

Languages

Python
C++
C#
SQL
Javascript
CSS
HTML
MATLAB

Frameworks

Tensorflow
Matplotlib
Pandas
Numpy
Git
Arduino
Solidworks
PyTorch
Fusion 360
OpenCV
AWS

Experience

Machine Learning Engineer, XSENSOR, Calgary

JANUARY 2023 — PRESENT

Human Pose Estimation | Computer Vision | Data Engineering | Machine Learning | Continuous Skin Monitoring

- Optimized human-pose-estimation models using PyTorch to classify human key points and poses from pressure sensor images
- Developed a streamlined data ingestion pipeline for human-pose-estimation using OpenCV and data engineering techniques to create high-quality pressure image dataset

Neuroengineering Research Assistant, Neural and Rehabilitation Lab, University of Waterloo, Waterloo

MAY 2023 — PRESENT

- Assisted with the acquisition and analysis of electroencephalography (EEG) data using software such as MATLAB and OpenBCI
- Contributed to the development and testing of a hybrid brain-computer interface system using both motor imagery and steady-state visual evoked potentials (SSVEP)

Computer Vision Team Lead, Waterloo Aerial Robotics Group, Waterloo

JUNE 2021 — JANUARY 2023

SLAM | LiDAR | UAV Ground Station Development | Data Telemetry | Transfer Learning | Sensor Data Processing | PyTorch | Object-tracking |

- Led 20+ computer vision members in developing a drone ground station, integrating real-time computer vision modules and bidirectional telemetry
- Led the training efforts for YOLOv5 deepSORT, a state-of-the-art object detection algorithm, utilizing transfer learning techniques and a custom dataset that achieved a 99.6% accuracy for classifying and tracking objects from aerial views

Biosignal Researcher and Developer, Watolink, Waterloo

OCTOBER 2021 — PRESENT

Signal Processing | Brain Computer Interface Development | Deep Learning | Neural Signals | Dataset Development

- Applied Numpy signal processing techniques to analyze neural signals
- Developed a Compact Convolutional Neural Network (CNN) in TensorFlow to achieve a classification accuracy of 96%

ML/AI Engineer, Eon Media Corp, Toronto

MAY 2022 — AUGUST 2022

Action Recognition | AWS Web Services | End-to-end ML Development | Synthetic Data Generation | Computer Vision |

- Designed and executed an end-to-end ML solution to recognize actions in sports broadcasts using PyTorch, Numpy, OpenCV, and the CUDA toolkit
- Created synthetic datasets to enhance ML solution quality and expedite model development, while minimizing data acquisition costs
- Employed AWS Lambda, EFS, EC2, and S3 to establish an efficient ML pipeline that significantly boosted system efficacy while minimizing expenses

Courses

Advanced TensorFlow Specialization, DeepLearning.AI

JUNE 2021 — AUGUST 2021

Certificate

Education

B.A.Sc Candidate for Biomedical Engineering, University of Waterloo, Waterloo, Ontario

SEPTEMBER 2021 — JUNE 2026