William Jiang

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Education

University of California, Los Angeles *Expected Graduation Date: June 2028*

Bachelor of Science in Computer Science and Engineering

- Recipient of Medtronic and Ontario Hockey Federation Scholarship

Oakville Trafalgar High School *September 2020-June 2024*

High School Diploma and French Immersion Diploma

- Physics Club Executive | Programming Club Executive and Machine Learning Specialist
- 4x Honours Society | 2x Merit Award | 2x AP Scholar with Honor | Ontario Scholar

Experience

Computer Vision Research Assistant July 2024 – August 2024

University of Waterloo *Waterloo, ON*

- Annotated **100+** hockey games of footage to develop a robust dataset for training machine learning models.
- Designed a **YOLO**-based object detection and tracking system to track player movements with **99% accuracy**.
- Developed an **extreme gradient boosting** algorithm using **150+** videos to evaluate performance evaluation.
- Utilized **homography techniques** to map player positions and warp visualized data to original footage.
- Integrated **SAM2** for automating player mask creation, enabling precise overlay of player masks on visualized data.

Executive Director/Media Campaign Coordinator September 2022 - June 2024

Math et Al. *Oakville, ON*

- Designed and hosted **math and physics competitions** to boost engagement in STEM disciplines.
- Directed marketing projects, driving a **60% increase** in event attendance and enrollment to **250+ members**.
- Moderated discussion channels by **providing targeted resources and advice** to boost **participant satisfaction**.

Multimedia Designer April 2021 – October 2023

Youtube *Remote*

- Produced and edited **40+ videos**, achieving over **140,000 views** on YouTube by creating edits and tutorials.
- Implemented **search engine optimization** strategies, to generate over **1.2 million** video impressions
- Developed and refined video content strategies to increase **audience retention** and grew channel visibility through high-quality visual storytelling.

Projects

Face Recognition System | *Python, TensorFlow, Keras, PyTorch*

- Engineered a high-performance face recognition system using **convolutional neural networks** with **rectified linear unit activation functions**, achieving **99% accuracy**.
- Applied **data preprocessing and augmentation techniques** to enhance performance in diverse scenarios.

Chest Disease and Detection and Diagnosis | *Python, TensorFlow, Keras, OpenCV, NumPy, Scikit-learn*

- Developed and fine-tuned **ResNet50** models using transfer learning in **Keras** and **TensorFlow** to classify chest diseases from X-ray images.
- Utilized **data augmentation** and **hyperparameter optimization** to enhance performance.

Large Language Model Summary Generator | *Python, LLaMA2, PyTorch, Hugging Face, LoRA, PEFT*

- Implemented different layers of **Meta's Llama 2** and used **Low-rank adaptation** and **Parameter-efficient fine-tuning** to create a summary generator and optimize its performance on low computing resources.

Technical Skills

Languages: Java, Python, JavaScript, HTML/CSS | **Design**: Figma, Adobe Illustrator, Photoshop, After Effects
Developer Tools: Git, VS Code | **Libraries**: PyTorch, TensorFlow, Keras, OpenCV, NumPy, Pandas, Matplotlib