

Jingxiao(Jane) Tian

j1tian@ucsd.edu | (347) 549-2460 | San Diego, CA

EDUCATION

University of California San Diego, PhD in CS/Machine Learning
New York University, MS in Electrical and Computer Engineering
Wuhan University, BS in Electrical and Computer Engineering

Expected 05/2025
09/2018-05/2020
09/2014-06/2018

TECHNICAL SKILLS

Programming: Python, Golang, MATLAB, C, Java **Machine Learning:** TensorFlow, PyTorch, Transformer, CNN, BERT
Computer Vision: 2D/3D detection, 2D/3D segmentation, object tracking **NLP:** Text generation/classification, Sentiment analysis
Data Analysis and Visualization: NumPy, Pandas, Matplotlib, Seaborn **Database Management:** SQL, MongoDB, Firebase

EXPERIENCE

Afanti E-Learning Provider, Remote, US (*LLM Machine Learning Engineer*)

04/2023- Present

- Developed and fine-tuned pre-trained language models for diverse generative AI applications, leveraging expertise in LLM technologies such as GPT-4.0 and Transformers.
- Utilized profound knowledge of Transformer-based architectures to identify and resolve performance bottlenecks in training and inference. Demonstrated expertise in optimizing large-scale foundation models through quantization, pruning, and low-rank approximation. Contributed to efficient GPU and AI accelerator deployment for enhanced computational efficiency.
- Applied strong analytical skills for data-driven decision-making and optimized model training using extensive datasets. Led educational chatbot creation akin to Khanmigo's model, elevating student engagement and learning outcomes.

Internet of Things Laboratory, San Diego, CA (*PhD*)

06/2021- Present

- Trained models consisting of multi-CSBR layers followed by a single dense layer with sigmoid activation, utilizing the Caffe framework on a GPU cluster to achieve ROC results with an impressive AUC of 0.90.
- Successfully trained a Caffe neuron network with 8 Convolution/Batch Normalization, 4 Pooling, and 1 fully connected CNN, using data from VGG Face Dataset (around 1 million images including augmentation for various conditions).
- Deployed a CNN model with ReLU activation layers for image segmentation and object tracking using depth camera data.
- Developed a U-Net model specifically tailored for medical image segmentation, focusing on chest X-ray analysis in collaboration with Alvarado Hospital Medical Center to ensure the highest level of medical expertise and data accuracy.

Occuspace Inc, San Diego, CA (*Machine Learning Engineering*)

12/2021-04/2023

- Deployed deep learning, including RNN and XGBoost, to significantly enhance the accuracy of occupancy detection based on data collected at the main library building of the UCSD, resulting in a 90% prediction accuracy rate.
- Effectively addressed key issues related to data leakage and overtraining by appropriately shuffling the initial dataset into training and testing datasets, achieving optimal model performance and reliability.
- Developed a cutting-edge Golang process that runs independently of the primary process, significantly improving Journalctl information logs by combining, shortening, or showing essential information on top of the file, enabling faster and more efficient data streaming to the AWS cloud.

The Smart Biomedical Systems Laboratory, San Diego, CA (*Research Assistant*)

06/2020-05/2021

- Developed and optimized a MATLAB-based machine learning model to accurately detect and classify bursting spikes in biology neurons, leveraging electromyography muscle sensor data in real time. Achieved a classification accuracy of 95%, outperforming existing models in the field.

Medical and Intelligent Technologies Laboratory, New York, NY (*Research Assistant*)

09/2019-03/2020

- Utilized TensorFlow LSTM and Principal Component Analysis to develop a highly accurate prediction model by analyzing complex audio and ultrasound signals, achieving a 87% prediction accuracy rate.

PROJECTS

Multimodal Sentiment Analysis and Generation System

09/2022-04/2023

- Designed and developed a multimodal architecture, integrating text, image, and audio data, with the core component being the GPT-3.5 large-scale language model, to facilitate sentiment analysis and generation functionalities.
- Utilized transfer learning strategies to fine-tune GPT-3, optimizing its performance on emotion-related tasks and enhancing the system's generalization capabilities.
- Designed and constructed a sentiment analysis model, combining word embeddings and attention mechanisms, to provide clients with in-depth sentiment analysis services for social media data, enabling them to better understand user emotions and feedback.

Cassava Leaf Disease Classification

02/2021-05/2021

- Successfully implemented and trained state-of-the-art machine learning models, including ResNet18&50, MobileNetV2, and MnasNet, utilizing TensorFlow, achieving an impressive 92% accuracy rate in cassava disease classification.
- Conducted rigorous experimentation with different hyperparameters, resulting in significant improvements in model performance and increased robustness against adversarial attacks.