Dans To

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EDUCATION

University of California, Berkeley — Berkeley, CA
Bachelor of Arts in Physics — *Aug. 2020 – Dec 2024*

PROJECTS

Skin Cancer Detection with 3D-TBP | *Python, PyTorch, OpenCV, Deep Learning, Scikit-learn, CNN*
- Developed a multi-modal machine learning model to classify malignant and benign moles, achieving a validation accuracy of 89.43% by analyzing over 400,000 TBP images of skin lesions.
- Efficiently implemented the machine learning model to a web application using FastAPI and TensorFlow Serving, reducing latency by 20% and ensuring efficient, scalable real-time predictions.

Reinforcement Learning-Based Trade Optimization | *Pytorch, AWS SageMaker, Stable-Baselines3*
- Developed a trading model inspired by the "RL in Limit Order Markets" research paper, achieving up to 15% higher cost efficiency than VWAP in minimizing transaction costs for sell-side trade execution.
- Hosted the model on AWS SageMaker as a real-time API endpoint, delivering optimized trade schedules (timestamp and share size) for high-frequency trading.

Autonomous Scientific Research Agent | *LangChain, FastAPI, Pandas, MongoDB, Kubernetes*
- Developed an autonomous research agent using LangChain and integrated multiple APIs (arXiv, PubMed) to analyze 100K+ research documents, boosting retrieval efficiency by 50%.
- Deployed the agent as a microservices-based FastAPI application in a containerized cloud environment, ensuring 99.9% uptime and sub-second response times.

Real-time Facial Recognition System | *Python, PyTorch, OpenCV, Scikit-learn*
- Engineered a high-performance face recognition system in Python using OpenCV, integrating KNN and SVM algorithms to achieve a real-time identification F1 score of 0.76.
- Efficiently processed over 20+ hours of video for training by utilizing multi-threading, GPU acceleration, and model pruning techniques to optimize computational resources.
- Integrated system for automated attendance tracking, showcasing innovation in artificial intelligence.

EXPERIENCE

Machine Learning Engineer Intern — December 2024 – Present
Shoptaki — *New York, NY*
- Developed an end-to-end deep learning pipeline integrating OCR and facial recognition for SmartID verification, achieving 91% accuracy and a 20% reduction in false positives across diverse ID formats.
- Optimized and deployed a secure RESTful API for real-time document validation, reducing processing latency by 30% and ensuring seamless integration with decentralized identity networks.

Undergraduate Tutor — January 2019 – December 2024
UC Berkeley, Foothill College — *Los Altos and Berkeley, CA*
- Boosted average grade percentile by 22% through a one-on-one tutoring for 15+ undergraduates
- Led tutoring initiatives on FCC's President's Board, growing program participation by 150%

TECHNICAL SKILLS

Languages: Python, SQL, Java, JavaScript
Frameworks: PyTorch, Apache Spark, FastAPI, Tensorflow, Keras, OpenCV, HuggingFace, LoRA
Developer Tools: Git, NVIDIA (GPU Cloud, Infrastructure Manager), AWS SageMaker
Libraries: pandas, NumPy, Matplotlib, Scikit-learn, Seaborn