Kayne Maniti

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Education

- **University of California San Diego** — La Jolla, CA
  Bachelors of Science in Computer Science; GPA: 3.72 — *Sep. 2023 – Jun. 2026*
- **Cornell University** — Ithaca, NY
  Machine Learning Foundations e-Certificate, Break Through Tech — *May 2024 – Aug. 2024*

Professional Experience

- **DIRECTV** — El Segundo, CA
  Machine Learning Engineer Intern — *Aug. 2024 – Dec. 2024*
  - Developed sentiment classifiers leveraging **NLP** and integrated them with **regression models** to forecast business performance metrics, utilizing **Python, TensorFlow, & scikit-learn.**
  - Used **Large Language Model (LLM), BERT**, for **aspect based sentiment analysis** and **classification** to see driving factors on business performance from customer reviews.
  - Experimented with **hyperparameter tuning** with **cross fold validation** with **scikit-learn**
- **UCSD Research** — La Jolla, CA
  Software/Drone Engineer & Assistant Researcher — *Oct. 2023 – Dec. 2024*
  - Built **object detection models** (e.g., **YOLOv8, DeepLabV3**) using **PyTorch**, achieving **83% precision** for bounding box and semantic segmentation tasks on drone-captured images.
  - Leveraged **NVIDIA Jetson Nano** for deploying **AI models** to **IoT devices** with real-time **data processing** and flight control using **MAVSDK**.
  - Optimized dataset labeling workflows using **Docker networking** & **nginx** for scalability in research applications.
  - Implemented **OpenCV** techniques for **image data preprocessing**, such as tilt correction, and expanded the dataset parsing legacy data using **Pandas**.
- **University of California San Diego** — La Jolla, CA
  Instructional Assistant, Python Programming — *Aug. 2024 - Sep. 2024*
  - Taught **100+ students** foundational programming concepts with an emphasis on **algorithmic thinking, data structures, and problem-solving** important for succeeding in future CSE courses.
  - Collaborated on assignment design and evaluations, ensuring consistency and clarity in feedback for students.

Projects

- **TensorSan**: Created **deep learning library from scratch in C & ARM assembly** training **MNIST dataset** with **92% accuracy** & **parallelized** matrix multiplication with **CUDA**.
- **Valorant Game Analysis**: Used **OpenCV2** for data preprocessing, **YOLOv8** for minimap detection, & **Python** for synthetic data generation, achieving **91% recall & 93% precision**.
- **Sustainability Bot**: Developed an **open-source online sustainability card** using **Python, Docker, MongoDB**, deployed on **Microsoft Azure** promoting sustainable practices to **200+ users**.
- **Android Flashcard App**: Basic Flashcard app for CSE 100, written in **Java** with **Android Studio**. Utilized **test-driven-development** ensuring functionality.

Leadership Experience

- **UCLA Break Through Tech** — Los Angeles, CA
  Fellowship — *May 2023 – Present*
  - **Competitive**: Selected from **3000+ applicants** to receive **$2000** stipend & become an AI Fellow
  - Trained **CNNs** and **sentiment analysis models** using **Keras and TensorFlow**, achieving **89% accuracy.**
  - Acquired data preparation, modeling, and evaluation skills using **NumPy, Pandas, Tensorflow, Matplotlib,** leading to improved data-driven decision-making for critical business problems.

Programming Skills

- **Languages**: Python, Java, C, ARM32, C++, Javascript **Technologies**: ReactJS, MongoDB, Docker, nginx