IAN RYAN

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SUMMARY

Recent Computer Science graduate with a strong interest in pattern recognition, computer vision, and deep learning. Experienced in training CNNs on imbalanced datasets and researching deployment to constrained hardware environments. Currently exploring model conversion via TorchScript and investigating embedded ML strategies using C++ for real-time inference. Passionate about autonomous systems, ML deployment, and real-world applications like drone-based vision systems.

SKILLS

Pattern Recognition, Linux, Python, PyTorch, Amazon SageMaker, Jupyter Notebook, Convolutional Neural Networks, Recurrent Neural Networks, Data Preprocessing, Deep Learning tools & frameworks, Deep Learning, Neural Network Modeling, Digital Image Processing, Image Recognition, Image Segmentation, ImageJ, CUDA, CUDNN, Communication, Adaptability, Independent Problem Solving, Public Speaking

EDUCATION

California State University Channel Islands | Camarillo, CA | 12/2024

Bachelor of Science: Computer Science

- [Artificial Intelligence Club] Member, 2023-2025
- [Network Security Club] Member, 2023-2025

Other: **Associates**: Computer Science, Natural Sciences And Mathematics, Liberal Studies

- [Fall, 2020] - Dean's List

RELEVANT COURSEWORK

Introduction to Artificial Intelligence/Machine Learning | Digital Image Processing | Image Processing and Pattern Recognition | Analysis of Algorithms | Automaton Languages and Computations | Societal Issues in Computing | Database Design and Theory | Software Engineering

RELEVANT PROJECTS

Deconvolution & Image Enhancement

- Applied **Wiener filters, Gaussian blur, and deconvolution** to enhance image clarity.
- Processed images (license plates, MRI scans, vintage photos) to reduce noise and improve sharpness.
- Addressed **rotational motion blur** challenges using iterative filtering techniques.

Seed Pattern Recognition

- Built a **pattern recognition model** for seed classification using **image segmentation**.
- Extracted features and applied **K-Means Clustering** for classification.
- Independently captured and processed training/testing images to refine model accuracy.

Capstone: Multi-Class Classification Convolutional Neural Network

- Developed a **multi-class image classification model** for detecting humans and 17 animal classes.
- Managed **imbalanced dataset** (70% training, 20% validation, 10% testing) to reduce bias.
- Implemented **hyperparameter tuning** to mitigate overfitting and improve accuracy.
- Built a **user-friendly Jupyter Notebook** & presented results to technical and non-technical audiences, with future plans to integrate **YOLO for object detection**.

CERTIFICATIONS

- **AWS Academy MLU - Application of Deep Learning to Text and Images**
- **AWS Academy MLU - Machine Learning through Application**