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SUMMARY

Senior Electrical and Computer Engineering Bachelor Student specializing in machine learning with experience in computer vision, signal processing, and embedded systems. Proficient in PyTorch and deep learning frameworks, with research experience in medical diagnostics and assistive technologies. Strong ability to learn quickly, adapt to new challenges, and contribute effectively in research-driven environments. Seeking a machine learning internship for Summer 2025 to apply expertise in deep learning, reinforcement learning, and AI applications.

EDUCATION

•Masters in Data Science and Machine Learning

Applications Ongoing

Expected Start: 2025 Institution TBD

- Exploring graduate programs focused on advanced ML, data engineering, and AI research.

•École Polytechnique, IP Paris

Aug 2024 - Mar 2024

Global Exchange Program - Advanced AI Coursework

Paris, France

- Studied Vision Transformers, Self-Supervised Learning, and Generative AI (Stable Diffusion, LoRA, RLHF).
- Hands-on with NLP (Transformers, Large Language Models, Sequence Labeling).
- Applied Reinforcement Learning to autonomous agent decision-making (DQN, MDPs, Bandit Machines).

University of California, San Diego

Expected Graduation: 2025

B.S. in Electrical and Computer Engineering, GPA: 3.8

San Diego, CA

- Coursework: Circuit Analysis, Signal Processing, Control Systems, Advanced Topics in ML.
- Designed and simulated analog/digital circuits; worked with embedded systems.

•La Jolla High School

Graduated 2021

High School Diploma, Cum Laude, GPA: 4.81

La Jolla, CA

AP Courses Passed: 11

EXPERIENCE

•Summer Research Internship Program UCSD

May 2024 - Sep 2024

Medical Swallow Analysis Project

San Diego, CA

- Applied ML techniques to improve medical diagnostics and patient screening.
- Developed a CNN segmenter & SVM classifier for swallowing disorder detection.
- Engineered an audio segmenter to preprocess swallowing sounds for classification.

Digital Health Technologies Lab

Feb 2024 - May 2024

Medical Chatbot Development

San Diego, CA

Developed a multi-agent system optimizing ChatGPT's medical self-triage capabilities.

•UC San Diego - Instructional Assistant

Jan 2023 - Dec 2023

ECE 15: C Programming Tutor

San Diego, CA

- Tutored 140 students in C programming; received top feedback for teaching effectiveness.

•UC San Diego - Engineering Learning Commons

Apr 2023 - Dec 2023

Peer Educator

San Diego, CA

- Led physics lessons for 20+ students; created concept reviews and practice problems.

PERSONAL PROJECTS

•Gripper Arm

Mar - Jun 2023

Link to Website - https://qdo665.wixsite.com/ece196getagrip

- Forearm-mounted device assisting those with limited hand mobility (PCB design, CAD modeling, C).

•CNN for ASL Recognition

Jan - Mar 2024

Link to Website - https://github.com/sebastian110203/ECE176Final

ResNet-based CNN classifying ASL letters; improved accuracy using skeletonized hand images.

TECHNICAL SKILLS AND INTERESTS

Languages: Bilingual English/French, fluent Spanish

Programming: Python, C, C++, Assembly

Machine Learning: Deep Learning (CNNs, RNNs, Transformers), NLP, Reinforcement Learning

Frameworks: PyTorch, TensorFlow, Keras, torch.vision, NumPy, Scikit-learn

Tools: MATLAB, Google Colab, Kaggle, Onshape/SOLIDWORKS

Coursework: OOP, Advanced Topics in ML, Signal Processing, Circuit Analysis, Control Design

Soft Skills: Pretty dang good at Communication