PUYA FARD

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Ambitious Computer Engineer with a focus on Embedded Systems, Machine Learning, and Internet of Things (IoT). committed on delivering impactful solutions and tackle complex challenges to bring success for the organization I am a part of.

WORK EXPERIENCE

Embedded Software Engineer, TP-Link Systems Inc. - Irvine **Jan 2025 - Present**

- Developing and maintaining networking software for routers and embedded systems.
- Optimizing firmware for performance, security, and reliability.
- Working with tools like Wireshark, GDB, and Linux-based systems for testing and debugging.

Research Assistant, Associate Prof. Dr. Salma Elmalaki - Irvine **Mar 2024 - Dec 2024**

- Research topic: Human-aware automotive testbed using CARLA with VR environment, supervised by Assistant Prof. Dr. Salma Elmalaki in the Pervasive Autonomy Lab.
- Successfully assembled a fully functional testbed, optimized user experience to match real world driving standards for best performance and studied human-in-loop experiments.

TA & Grader, Lyles College of Engineering - Fresno **Feb 2022 - May 2023**

- Assisted in preparing lesson materials and supporting engineering students in a professional development course for ECE Department Chair Prof. Dr. Reza Raeisi.
- Conducted weekly review sessions and held office hours to address student questions on graded homework and projects.

Web Design Assistant, Technology Services - Fresno **Jun 2022 - Sep 2022**

- Redesigned and maintained, and managed faculty and department websites at CSU Fresno. Assisted Mr. Fatih Yener with student and faculty work orders with resolution of their requests.
- Developed proficiency in HTML and CSS for web development and content management using OMNI CMS.

EDUCATION

University of California Irvine **2023-2024**
Masters of Science in Computer Engineering

California State University Fresno **2021-2023**
Bachelors of Science in Computer Engineering

PROJECTS

SmartZoo Controlling & Monitoring system

- Created a safe and intelligent control environment that ensures the safety of stingrays, reptiles and elephants in the zoo. This project leverages embedded systems, cloud-based programming, and a software-based user interface to monitor, collect, and store data.

Optimized Hardware Accelerators for Deep Learning Architectures

- Designed and optimized hardware accelerators for UNet, VGG16, and llama3_variant deep learning architectures. Achieved significant reductions in latency (up to 70.54%) and energy consumption (up to 54.11%) through advanced dataflow design and iterative testing.

Music Recreation and Genre Classification with Deep Learning Models

- Developed and evaluated deep learning models for music recreation and genre classification. Synthesized music using an LSTM hidden-layer model, achieving 92% accuracy. For genre classification, a Dense Neural Network achieved the highest accuracy (86%), excelling in genres such as "Classical," "Metal," and "Pop." Additionally, principal component analysis (PCA) was employed to analyze output data effectively, improving interpretability of model predictions.

SKILLS

- **Embedded Engineering:** Cadence, Linux programming, ModelSim, FPGA, SoC, Quartus Prime, SystemC
- **Software Engineering:** C, C++, C#, Python, Assembly, HTML, HDL
- **Machine Learning Engineering:** PyTorch, TensorFlow, Keras, NumPy, Pandas, Matplotlib
- **Project Management:** TOPSIS, SWOT, Scheduling, Project Control, Planning, Communication & Teamwork
- **Languages:** English, Persian, Turkish

website