YESENIA PUGA

pyesenia3@gmail.com | 6507990428 | East Palo Alto, CA 94303 | **WWW:** https://www.linkedin.com/in/yesenia-puga-8b6a98166/

Skills

- **Programming & Development:** Python, C, C++, Java, MATLAB, JavaScript (basic)
- **Data & Cloud:** SQL/NoSQL, ETL/ELT pipelines, Data Wrangling, AWS (S3, EC2 basics), REST APIs
- **Embedded & Systems:** ESP32, FreeRTOS, I2C, Ultrasonic Sensors, Real-time Systems
- **Tools:** Git/GitHub, Linux/Unix, Bash, Docker, bedToBigBed
- **Domains:** Genomics, Neuroscience, Image Analysis, Machine Learning, Signal Processing

Experience

Retention Specialist (Temp) | College of San Mateo – MESA Program - San Mateo, California | 05/2025 - 09/2025

- Managed student enrollment and participation data using **Excel (filters, pivot tables,** and **conditional formatting)** to track tutoring attendance and workshop engagement.
- Created reports to **identify prospective students for recruitment**, improving outreach efficiency.
- Designed and presented **time-management and goal-setting workshops**, supporting students in balancing academics, work, and personal obligations.
- Served as an advocate, connecting students with campus resources, referrals, and holistic support services.

Software Engineer (Genomics Data) | UC Santa Cruz Genomics Institute - Santa Cruz, California | 08/2024 - 12/2024

- Engineered **data pipelines** for genomic datasets (Python, Bash, awk), enabling efficient integration into the **UCSC Genome Browser**.
- Automated **ETL workflows** including annotation, preprocessing, and conversion to bigBed formats for high-performance queries and visualization.
- Developed **RGB color-coding logic** for CNV types, improving interpretability for researchers and clinicians.
- Designed structured Assembly Hub content to improve navigation and data accessibility for global genomics users.

Research Assistant (Computational Neuroscience) | UC Santa Cruz - Dr. Euiseok Kim's Lab - Santa Cruz, California | 05/2024 - 12/2024

- Built the **"Fine Tune" feature** in Python for the Bell Jar application, enabling **real-time feedback loops** that re-trained ML models based on user annotations.
- Optimized backend performance for **high-resolution biological imaging**, ensuring scalability and responsiveness of computational pipelines.
- Collaborated with neuroscientists to translate biological requirements into **software engineering solutions**, bridging science and technology.

Embedded Systems Engineer (Capstone) | UC Santa Cruz - Santa Cruz, California | 01/2024 - 06/2024

- Led a 4-person team to design an **autonomous hospital sanitation robot**, integrating multi-sensor feedback and real-time task scheduling with FreeRTOS.
- Architected a **state machine with I2C multiplexer** to coordinate multiple ESP32 controllers, enabling scalable modular control.
- Combined **ultrasonic sensing, actuator control, and MLX90640 infrared imaging** to detect surfaces and verify bacterial reduction.
- Delivered a system capable of cleaning 5+ surfaces per 10 minutes with a 2–3 hour operational lifespan.

Research Assistant (Imaging Systems) | UC Santa Cruz - Dr. Euiseok Kim's Lab - Santa Cruz, California | 10/2023 - 03/2024

- Modernized and modularized **legacy MATLAB code** for intrinsic signal imaging (ISI), aligning with modern research pipelines.
- Configured a distributed ISI setup across multiple machines, ensuring reproducibility, synchronization, and precise neural activity capture.
- Strengthened lab capabilities in **functional brain mapping** by integrating updated software with complex imaging hardware.

Education and Training

University of California, Santa Cruz | Santa Cruz, CA | 12/2024

Bachelor of Science: Computer Engineering

College of San Mateo | San Mateo, CA | 05/2022

Associate of Science: Computer And Information Science

College of San Mateo | San Mateo, CA | 05/2022

Associate of Science: Mathematics