Joseph Ignacio Guzman

PROFESSIONAL SUMMARY

Motivated and detail-oriented Computer Engineering graduate from California State University, Long Beach, with practical experience in embedded systems design, software development, and hardware-software integration. Skilled at tackling complex real-world challenges and quickly adapting to new tools and technologies. Demonstrated leadership in team projects and holds a passion for fields such as the space industry and healthcare through ongoing personal projects. Eager to contribute technical expertise and a growth mindset to innovative, collaborative environments.

PROJECT EXPERIENCE

Exoplanet Discovery | Ongoing Independent Research   August 2025 - Present
- Conducting independent research on exoplanet detection methods and transit pipelines using public NASA datasets.
- Exploring traditional and machine learning algorithms (e.g., Box Least Squares) for signal classification and anomaly detection.
- Investigating implementation options for real-time processing on embedded platforms (ESP32/STM32 microcontrollers).
- Gaining experience in astronomical data analysis, embedded control systems, and feasibility assessment for TinyML deployment.

Brain Computer Interface | Ongoing Independent Research   June 2025 - Present
- Researching user interface design and calibration strategies to streamline data acquisition
- Exploring alternative methods for acquiring EEG data, including open-source datasets and low-cost simulation tools, due to the high expense of commercial EEG hardware..
- Currently reading Change Your Brain, Change Your Life by Dr. Daniel Amen to enhance understanding of brain function and apply insights to brain-computer interface research.
- Designing the initial framework for a system to acquire and store raw EEG brain activity data synchronized with user actions.
- Building foundational knowledge to accelerate future development and prototyping of BCI technologies.

Dr. Pill The Automated Pill Dispenser | C, Python, and Shapr3D   September 2024 - May 2025
- Designed and implemented the pill dispensing mechanism, ensuring precise and reliable medication delivery.
- Developed and calibrated motor systems to optimize performance and accuracy of the dispenser.
- Engineered board-to-board communication protocols between STM32 microcontroller and Raspberry Pi for seamless hardware integration.
- Created detailed 3D designs and managed 3D printing processes to fabricate custom components for the device.
- Fine-tuned the Python-based GUI, implementing quality-of-life improvements to enhance user experience and interface responsiveness.

WORK EXPERIENCE

Tastea - Team Lead Supervisor

Long Beach Exchange Center   June 2020 - June 2022
- Supervised team operations, maintained product quality, and ensured compliance with service standards
- Managed inventory and stock levels to optimize efficiency and reduce waste
- Delivered performance evaluations and suggestions to upper management to enhance staff productivity

CONTACT INFO

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WEBSITES / PROFILES

- https://jibguzman.github.io/
- linkedin.com/in/josephguzmani

TECHNICAL SKILLS

- C
- C++
- Python
- MATLAB
- Verilog
- Java
- JavaScript
- SQL
- HTML
- Assembly
- STM32CubeIDE
- Vivado
- Keil uVision
- SolidWorks
- Shapr3D
- Git
- GitHub
- MySQL
- Linux
- VirtualBox
- Jupyter Notebook
- LTspice
- I2C
- UART
- SPI
- PWM
- Circuit Design
- Testing
- Calibration
- Troubleshooting
- Hardware Assembly
- Leadership
- Team Collaboration
- Project Coordination

EDUCATION

B.S. Computer Engineering
California State University, Long Beach
May 2025