

# Michael Medrano

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Los Angeles, CA

## Summary

A **BS computer engineering graduate** seeking to enter the technology industry by leveraging a wide range of technical, problem solving, and project management skills. A persistent, detail-oriented, and critical thinker able to quickly learn new technologies and systems.

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## Technologies

**Proficient:** Python, C#, Windows OS, Unity, Git, Github, SourceTree, Docker, Google Workspace.  
**Familiar:** C++, C, Linux, Make, CMake, MLFlow, DagsHub, TensorFlow, PyTorch, Gradio, HuggingFace, Infineon Designer, LTSpice

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## Skills

Object Oriented Programming, Procedural Programming, Version Control Systems, Machine Learning, Circuit Analysis and Simulations, Embedded Systems, Project Management, Game Programming.

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## Experience

Tiny Machine Learning Operations (TinyMLOps) Pipeline September 2022 - June 2023

- Led a team in building a **tiny machine learning operations (tinyMLOps) pipeline** for making deployment of machine learning models on **microcontrollers** easier and more accessible to embedded software developers, offering model and experiment version control, and containerized development+deployment environments.
- Improved project traceability and streamlined workflows by leading the documentation and project versioning process on **GitHub** using **Git**.
- Enhanced the pipeline's functionality and reliability by designing, building, and testing robust containerization systems on **Linux** and **Windows OS** using **Docker** and **Python/Shell** scripts.
- Increased real-time performance for microcontrollers and improved model management by integrated **TensorFlow** Lite Micro libraries in **C** and **C++**, **MLFlow**, and **Dagshub** into the pipeline using **CMake** and **Make**.
- Demonstrated functionality by **training, evaluating, and deploying** keyword-spotting models on **STM32** microcontrollers.

Word Sense Disambiguation (WSD) Deep Learning Web-application April 2022

- Deployed an intuitive user interface for a Word Sense Disambiguation (WSD) deep learning application using **Python** and **Gradio** on **HuggingFace** that accurately identifies the correct meaning of words based on user input.
- Ensured reliability and functionality by maintaining the web application, providing continued reliable access and performance for users.

Canned Satellite Mission Project March - July 2021

- Worked with a team to simulate a canned satellite (CanSat) mission, overseeing design, construction, project management, and mission planning, resulting in successful project completion.
- Strengthened efficiency and reliability by leading the project lifecycle using **work breakdown structures**, **Gantt charts**, and **risk and quality management** charts using **Google Docs** and **Google Sheets**.
- Implemented the CanSat power system functionality and boosted performance by developing control code for duty cycles in **C** and conducting **circuit simulations** for the switching power supply using **Infineon Designer**.

Grid Guardians June 2024

- Led a team in the development of a 2D top-down tower defense RTS video game on **Unity** using **C#**.
  - Streamlined collaboration through integration of **Git**, **Github**, and **SourceTree** into Unity project workflow.
  - Designed and implemented the programming **architecture** and **systems** such as the level manager, game state manager, wave spawner, input handler, structure manager, audio manager, and UI system.
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## Education

**Bachelor of Science in Computer Engineering**  
University of the Philippines Diliman  
August 2023

### Relevant Coursework:

Introduction to Programming and Computation, Data Structures and Algorithms, Advanced Software Concepts, Computer Organization and Embedded Systems, Computing Architectures and Algorithms, Deep Learning, Industrial Organization and Management