Michael Medrano

LinkedIn | email: michael.ranola.medrano@gmail.com

Summary

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

Technologies

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

Skills

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

Experience

Game Development
September 2023 - present

- Led a team of 4 in developing independent video games ranging from 2D platformers and top-down tower defense RTS games, to 3D first and third person games using **Unity** and **C#.**
- Streamlined organization collaboration through integration of **Git**, **Github**, and **SourceTree** into the Unity project workflow and managed large asset storage by incorporating the **Google Drive** API.
- Responsible for designing and implementing a wide range of programming **architecture, systems,** and **game logic** such as level managers, game state managers, entity AI and spawners, input handlers, structure managers, audio managers, and UI systems.

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 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**.

Education

Bachelor of Science in Computer Engineering
University of the Philippines Diliman

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