Tolentino Abner Jr Morales

Software Engineer · Computer Engineer · Artist

abner.tolentino@u.nus.edu | Singapore | +65 84680443 | https://abnermtj.github.io/

Experience

Hewlett Packard Enterprise
Jan 2022 - Jun 2022

Software Firmware Engineer Intern
- Developed regression test frameworks for Network Switches using Pytest, Ceedling, Unity Test and CMock

Microtube Technologies
Oct 2021 - Nov 2021

Software Engineer Intern
- Led an initiative to create a data visualizer for Bluetooth sensors using UWP and Unity. Designed the UI/UX and completed the software implementation in time for their sensor kit launch

National University of Singapore
May 2021 - Aug 2021

Project Advisor
- Mentored 5 teams on software engineering best practices and the fundamentals of game development.

Projects

Cyberpunk Adventure Game with Anime Girls
Feb 2023 – May 2023

Game Developer
- Spearhead development of Time-Travel Cyberpunk Adventure Game with Anime Girls.
- Designed and implemented architectural systems, pipelines, system design, graphic requirements.
- Clinched 1st Runner up in NUS StePs 2023.

Lightsaber
Dec 2022 - Dec 2022

Developer
- Designed and creating an esp32 based lightsaber like from Star Wars.
- Implemented a smooth swing algorithm to mix pitch shifted hum sounds in real time.

Dance Move Detector
Aug 2021 – Nov 2021

Python/C++ Developer
- Developed a wearable dance move detector that uses Neural Net.
- Designed and implemented the Bluetooth protocol between IoT devices with Python on Ubuntu
- Implemented the reading and processing of IMU and EMG data on Arduinos in C/C++

Fantasy RPG
May 2020 - Aug 2020

Game Developer
- Developed a pixel platformer adventure game inspired by MapleStory
- Designed and implemented gameplay, physics, and software architecture on Godot in GdScript
- Clinched Top 6 of 383 projects in NUS SoC's Orbital 2020 for good software engineering

Smart Walking Stick
Aug 2022 - Nov 2022

ML Engineer
- Developed algorithms for fall detection using ML models in Python using TensorFlow and sklearn
- Researched and implemented optimizations to run directly on a ESP8266 microcontroller at 99.0% accuracy.

Skills

Languages	C/C++ · C# · Python · Java · HTML/CSS/JS · Verilog · SQL
Technologies	Unity · Godot · UWP · Arduino · Git · Unix · Docker · Vivado · Unreal Engine

Education

National University of Singapore   *Aug 2019 – Aug 2023*

B.E Computer Engineering

- **CAP:** 4.77/5.00 · Dean's List
- **Modules:** SE & OOP · DSA · OS · Networks · AI · Game Dev · Graphics · Image Processing · Computer architecture · Databases · AR/VR
- **Others:** Carnival Jam 2021 · Execute Hackathon 2020 · Lvl 99. Game Jam· NUS Comics and Animation Society · NUS Game Development Group