William Gunawan

(+62) 821-1096-6853 ❖ Jakarta, Indonesia
twtw40@gmail.com ❖ williscool.com ❖ https://github.com/Williscool13

SUMMARY

I am a programmer with a strong focus on low-level programming and software optimization. I excel at enhancing software performance by working close to the hardware level. My work is highly technical and requires specialized expertise. For more insights into my programming activities, visit my website.

EXPERIENCE

ATS Farma **Jul. 2022 – Oct. 2022**
Business System Developer *Jakarta, ID*

- I worked with the management and IT teams to review the existing sales and database systems for the company. With continuous communication and feedback from teams and sales representatives, I drafted proposals for improvements and changes to the system.

PT. Metrodata Electronics Tbk. **Oct. 2020 – Jan. 2021**
Data Analyst Intern *Jakarta, ID*

- As a team member in the newly founded data science team in Metrodata, I helped develop and explore solutions which take advantage of AI to solve tasks such as sentiment analysis and market insight.
- My responsibilities primarily included data collection of publicly available information from online vendors. I would prepare the data to be used in analyses by other team members.

A*Star (Institute of High-Performance Computing) **Nov. 2019 – Jul. 2020**
Research Project (Unpublished) *Singapore, SG*

- I was a part of a research project that involved close collaboration with researchers at A*Star (IHPC). The work involved producing a novel technique related to Differentiable Neural Architecture Search (DARTS), a form of automated deep learning architecture construction.
- A*Star (IHPC) is a Singaporean government agency created to solve scientific challenges through computational modelling, simulation, and AI. A*Star's faculty consists of distinguished AI researchers which help guide the agency to publish impactful papers in areas such as Deep Learning, Computer Vision, and Text-Based AI.

PROJECTS

C++ Based Ray-Tracer | C++

- A C++ ray-tracer made entirely without the use of libraries. The ray-tracer is capable of producing images of scenes at pristine fidelity levels. The ray-tracer is made efficient through the use of acceleration structures.

OpenGL Rendering Project | C++, OpenGL, GLFW, GLSL

- An OpenGL based project with a structure similar to a game engine. The project involves implementing modern rendering techniques such as environment maps, reflections, lights, and shadows. Modern rendering API techniques such as geometry and tessellation shaders were also used.

Vulkan Game Engine | C++, Vulkan, SDL2, NVIDIA Nsight, DearImgui, GLSL, Bash

- My game engine, founded on a Vulkan renderer, using common libraries used by modern game engines. The game engine also supports the use of compute shaders, improving the efficiency of calculations through the use of a GPU's SIMD architecture.

Game Projects | C#, Unity, FMOD, HLSL

- Several games were developed over the course of a year; all made in Unity and some with the involvement of a team. These teams typically include a composer, artist, and level designer; I was the main programmer and lead of the teams and worked to ensure that the project was developing at an appropriate pace. All published games can be found and played at: https://williscool13.itch.io/

EDUCATION

Coventry University — July 2020

BSc with Honours; First Class in Computer Science — *Singapore, SG*

- President of the Singapore Computer Society student chapter for 2 years.
- Conducted focus groups for fellow students to help develop their data science skills.

PSB Academy — March 2019

Diploma in Info-Communication Technology — *Singapore, SG*

SKILLS

Programming Languages: C++, C#, Python, Java, Bash, GLSL

Technologies/Methodologies: Object-Oriented Programming (OOP), Functional Programming, MySQL, Agile Development, Git, OpenGL, Vulkan, 3D Graphics, Graphics Programming, Event-Based Architecture

Others: Report Writing, Research, Teaching