Aloysius Goo

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WORK EXPERIENCE

Software Intern - A*STAR   *Feb 2024 - Apr 2024*
- Researched projects involving Vision Place Recognition (VPR) and Object Segmentation
- Implemented different VPR models in **C++** and **ONNX**
- Wrote C++ library to run **Key Point Extractors** and **Matcher Models**
- Wrote tooling to evaluate and fine tune **Segmentation Models**

Research Intern - DSTA   *Sep 2021 - Dec 2021*
- Worked on an AI research project to improve SCDF's HazMat Transport Vehicle Tracking System
- Implemented clustering algorithms to detect anomalous behaviour from vehicles
- Presented at NUS High's Research Congress

PROJECTS

Micro Plastics Predictor (https://github.com/jun-lsh/splash-awards-22)
- Predict future locations of micro plastic clusters in the ocean with Gated Recurrent Units
- Developed website to serve model to end users
- Model developed with **PyTorch** and website done in **Vue.js**
- Won Champion at Splash Awards with this project

Source LSP (https://github.com/source-academy/source-lsp)
- **Language Server** for Source, a subset of JavaScript, used to teach NUS students programming
- Robust implementation of common language server features with **Unit Tests**
- Integrated into a **VSCode Plugin** for students of NUS CS1101S to use

KOTLC (https://github.com/mug1wara26/KOTLC-Game)
- A free-to-play, offline, puzzle game about Lambda Calculus developed in **Godot** with **GDScript**
- Custom Lambda Calculus **DSL** for encoding levels
- **Tree-walking interpreter** to evaluate player solutions.

EDUCATION

National University of Singapore   **Aug 2024 - May 2027**
GPA: **4.7/5.0**
- Bachelors in **Computer Science**
- NUS Greyhats member, playing CTFs and organised GreyCTF
- CS1101S **Teaching Assistant** AY25/26 Semester 1
- CS2030S **Teaching Assistant** AY25/26 Semester 2

NUS High School of Math and Science   **Jan 2018 - Dec 2023**
- Majors in **Computer Science**, **Math** and **Chemistry**
- Robotics Club **Vice President** in 2021 & 2022
- Computer Science Interest Group Member and Trainer

TECHNICAL SKILLS

- **Languages:** Python, TypeScript, Java, Kotlin, C++, OCaml
- **Full Stack Web Dev:** Vue, Express, Node, SQL Databases, Docker, CI/CD
- **AI/ML:** PyTorch, Tensorflow, ONNX
- **Data Science:** Pandas/Polars, SciKit-Learn
- **Misc:** Linux, Networking, Godot, Git, Prog Lang Impl

AWARDS

- Cyberthon 2023 JC **Champion**
- CDDC 2022 & 2023 JC **Champion**
- Splash Awards 2022 JC **Champion**
- NUS High Outstanding Leadership Award 2021 & 2022