Prannaya Gupta

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🌐 https://thepyprogrammer.github.io/

Education

2018 – 2023 🔖 **NUS High Diploma, NUS High School**.
Majors: *Mathematics, Computer Science (with Honours), Physics (with Honours in Computer Engineering) and Chemistry*
Cumulative Average Point (CAP): **4.8**
(Maximum CAP: 5.0)

2022 – 2023 🔖 **Non-Graduating Programme, National University of Singapore** in Computer Science and Computer Engineering.
Modules Taken: `CS2100, CS2106, CG1111A, CG2111A`

Experience

Dec 2022 🔖 **AI Intern.** AI Singapore
I worked with a bleeding-edge AI company under AI Singapore to develop a Benchmarking tool and a Proof-of-Concept News Classification application to pitch their potential models to Singaporean companies. I set up a MLflow interface for easy logging of experimental results.

Dec 2022 – 🔖 **Overall-in-Charge**, BuildingBloCS 2023
Organised multiple conferences, aimed at teaching students from various schools computational tasks like Artificial Intelligence, Web Development and Cybersecurity. Led a team of >100 organisers.

Nov 2022 – 🔖 **President**, NUS High's Computer Science Interest Group (AppVenture)

Projects

2020 – 2023 🔖 **Analysing Gait Patterns to Predict Freezing of Gait (FoG) in Parkinson's Disease (PD) Patients using Machine Learning Algorithms**
Designed an Android Application that uses AI algorithms including Support Vector Machines and Convolutional Neural Networks (CNNs) to predict Freezing of Gait (FoG) for post-Parkinson's Disease treatment.
Singapore Science and Engineering Fair (SSEF) 2021 and 2023, Gold Award
Global Youth Science and Technology Bowl (GYSTB) 2021, Third Prize

Ananya, N., & Ye, C. R. & Gupta, P., & Tay, A. (2022). Analysing Gait Patterns of Parkinsons' Disease Patients to Predict Freezing of Gait (FoG) Using Machine Learning Algorithms. In: Guo, H., Ren, H., Wang, V., Chekole, E.G., Lakshmanan, U. (eds) IRC-SET 2021. Springer, Singapore. 🔗 `https://doi.org/10.1007/978-981-16-9869-9_21`

2022 – 2023 🔖 **A Novel Feature Vector for AI-assisted Windows Malware Detection**
Used simple Deep Learning and Deep Transfer Learning to find an optimal model for Dynamic Malware Analysis using the Cuckoo Sandbox and Tensorflow.
Submitted to *IEEE Global Communications Conference (GLOBECOM) 2023*

2021 – 2023 🔖 **An Automated Screening System for Trinary Star Candidates**
Developed a novel multi-stage algorithm to process astronomical light curves for signs of abnormalities indicative of tertiary influence.
Submitted to *Physica Scripta*.

Projects (continued)

2021 – 2022 — **Embodied AI for Computational Perception and Understanding of Spatial Designs**
Trained Semantic Segmentation Models via Transfer Learning capable of segmenting HDB interiors and exteriors.

2022 — **Noisy Student Training to identify Textual Elements in Unsupervised News Data via Argumentative Essay Pieces**
Used HuggingFace Transformers to develop a system of models capable of identifying Textual Elements in Opinion Editorials and Argumentative Essays.

2021 — **FACE: Facial-recognition AI for Communicating Emotions**
Used Tensorflow to develop a CNN model to perform Visual Sentiment Analysis over Facial Expressions.
BuildingBloCS AIWinpetition 2021, Judges' Choice Award

2023 — **ArXiV.NUSH: A Research Repository for NUSH Students**
A Website to compile your research projects, collaborate on competitions and more. Built with Flask, Vue3 and Mysql.

Skills

Coding — Python, JavaScript/TypeScript, Java, Kotlin, SQL, LaTeX, C/C++

Databases — Mysql, Postgresql, MongoDB, Firebase Cloud Firestore, SQLite

Web Dev — HTML, CSS, JavaScript, TypeScript, Vue 2/3, Vuetify, Vite, React, Expo, Flask, Django

Misc. — Typesetting, Presentation Design, Leadership

Leadership — Club Director of Astronomy Club (80-member CCA), President of AppVenture (76-member Club), Overall-In-Charge and Head of Development of BuildingBloCS (100-member Community VIA), Head of Youth Community at Better.sg (3000-member Charity)

Awards and Scholarships

Awards and Achievements

2023 — **Gold Award**, Singapore Science and Engineering Fair.

— **SUTD Research and Innovation Award (Healthcare)**.

2022 — **Gold Award**, Singapore Physics Olympiad, Selected to National Training Team.

— **Bronze Award**, Singapore Astronomy Olympiad.

2021-2023 — **Gold Award**, Singapore Physics League.

2021 — **Best Presenters' Award**, IRC Conference on Science, Engineering and Technology.

— **Third Prize**, Global Youth Science and Technology Bowl.

— **2nd in Poster Presentation**, International Science Youth Forum.

— **Gold Award**, Singapore Science and Engineering Fair.

2020-2023 — **Edusave Scholarship for Independent Schools**.

2018-2019 — **Silver Award**, Singapore Mathematical Olympiad.

Certification

2020 — **Machine Learning by Stanford University**. Awarded by Coursera.

2021 — **Introduction to Quantum Computing**. Awarded by The Coding School.