

Prannaya Gupta

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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

- Aug 2024 - Jan 2026 📖 **AI Engineer, RSAF RAiD**
Serving my National Service obligations as a Software Support Assistant at the RSAF Agile Innovation Digital (RAiD), under their Experimentations branch, AETHER. Currently leading an innovation team developing human-machine interfaces to enhance RSAF-wide console-based operations. Investigating research methods to measure the cognitive load of controllers and developing decision support systems for training and operations purposes. Managing general team operations, including manpower, logistics and finance.
- Nov 2023 - Jan 2024 📖 **AI and Data Intern, Temus**
Led a team of interns to develop an LLM-powered HR management system for internal and external use. Assigned work and contributed actively to codebase and deployed application within Temus. Project attained Innovation Award at Google x IMDA Generative AI Trailblazers Competition. Worked on two side projects: a prompt engineering application supporting various service LLMs and a simple Air Traffic Control roleplaying software demo for RSAF's RAiD.
- Dec 2022 📖 **AI Intern, AI Singapore**
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. Set up a MLflow interface for easy logging of experimental results.

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**
International Student Science Fair (ISSF) 2023, **1st Place in CS Category**
Global Youth Science and Technology Bowl (GYSTB) 2021, **Third Prize**
Accepted in *IRC Conf on Science, Engineering and Tech (IRC-SET) 2021*, **Best Presenter's Award**

Projects (continued)

- 2023 – 2024  **Northstar: Talent Acquisition and Development Software**
Project done at Temus, HR management software. Set up LLM-assisted resume evaluation and summarisation with retrieval-augmented chatbot. Leveraged tool-calling in GPT-4 API to create custom views in chatbot. Contributed to React-based user interface and FastAPI-based server, and led project development in later half. Set up GitHub Projects and Google Cloud Actions.
- 2024 –  **WalledEval: Safety Evaluation Toolkit for Large Language Models**
Developed a comprehensive and publicly-available Python library walledeval for LLM safety evaluation. Supported various LLMs, datasets, templates and judges. Accepted in *EMNLP System Demonstrations Track 2024*
- 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. Accepted in *IEEE Intl Conf on Dependable, Autonomic & Secure Computing (DASC) 2023*
- 2021 – 2023  **An Automated Screening System for Trinary Star Candidates**
Developed a multi-stage algorithm to process astronomical light curves for signs of abnormalities indicative of tertiary influence. Released software as Python library tris. Accepted in *The Physics Educator in 2025*
- 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.
- 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. Created Vue2 and Flask-based web application to test these models.







Publications

- 1 V. Ramanathan, Y. X. Yap, P. Gupta, E. Cheong, and B. Ricardo, “Tris: A screening system for trinary star system candidates,” *The Physics Educator*, 2025.
- 2 P. Gupta, L. Q. Yau, H. H. Low, *et al.*, “Walledeval: A comprehensive safety evaluation toolkit for large language models,” in *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing: System Demonstrations*, 2024, pp. 397–407.
- 3 L. Q. Yau, Y. T. Lam, A. Lokesh, *et al.*, “A novel feature vector for ai-assisted windows malware detection,” in *2023 IEEE Intl Conf on Dependable, Autonomic and Secure Computing, Intl Conf on Pervasive Intelligence and Computing, Intl Conf on Cloud and Big Data Computing, Intl Conf on Cyber Science and Technology Congress (DASC/PiCom/CBDCOM/CyberSciTech)*, IEEE, 2023, pp. 0355–0361.
- 4 A. Nallapuraju, C. R. Ye, P. Gupta, and A. Tay, “Analysing gait patterns of parkinsons’ disease patients to predict freezing of gait (fog) using machine learning algorithms,” in *IRC-SET 2021: Proceedings of the 7th IRC Conference on Science, Engineering and Technology, August 2021, Singapore*, Springer, 2022, pp. 269–281.

Volunteering

Jul 2023 –	 Youth Community Lead , Better.sg Leading the Youth Wing of the charity Better.sg, organising tech-for-good community events and liaising with external hackathons for partnerships. Contributing to a Meta-sponsored AI mentorship programme for students in Singapore to work with experienced AI mentors on social good projects.
Dec 2022 – Dec 2023	 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.
Jan – Jun 2022	 Core Organiser and Head of Development , BuildingBloCS 2022 Lead the Development division in charge of distributing an API to participants for their use. Dealt with AWS deployment and server hosting with a Flask backend and SQLite database.
Oct 2021 –	
Oct 2022	 Volunteer Developer , Better.sg Contributed actively to the Saylah! project as a Frontend Developer (Vue2, Vuetify), the RecycleGoWhere? project as a Backend Developer (Django, Django Rest Framework) and ToBeYou project as a Growth Analyst. Helped with the integration of Firebase in many applications. Held the informal titles of " <i>Firebase sensei</i> ", " <i>Vue sensei</i> " and " <i>GitHub sensei</i> ".

Skills

Coding	 Python, JavaScript/TypeScript, Java, Kotlin, SQL, \LaTeX , C/C++
AI/ML	 TensorFlow, PyTorch, Langchain, Llamaindex
Databases	 MySQL, PostgreSQL, MongoDB, Firebase Cloud Firestore, SQLite
Web Dev	 HTML, CSS, JavaScript, TypeScript, Vue 2/3, Vuetify, Vite, React, Expo, NextJS, Flask, Django, FastAPI, Tauri
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

2020-2023	 Edusave Scholarship for Independent Schools.
2024	 Innovation Award , Google x IMDA Generative AI Trailblazers Competition.
2023	 1st Place (CS Category) , International Student Science Fair.  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.

Awards and Scholarships (continued)

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

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

Certification

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

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