

# PHANUPHAT SRISUKHAWASU

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## EDUCATION

### National University of Singapore

Bachelor of Computing in Computer Science (GPA: 4.63)

Expected Graduation: May 2028

Singapore

## EXPERIENCE

### Head of Machine Learning Training Program

Aug 2024 – Nov 2024

NUS Fintech Society

Singapore

- Spearheaded a machine learning training program for **30+ participants**, achieving an **80% completion rate** in final projects through weekly technical workshops on foundational ML/data analysis.
- Developed and delivered a **10-week curriculum** with hands-on labs using **Streamlit**, teaching exploratory data analysis (EDA) and time series forecasting to beginners effectively with the help of visual aids.
- Built an automated grading pipeline with **Gradio** on Hugging Face to assess participants' LSTM-based stock prediction models, **eliminating the expensive computation during manual evaluation** while providing real-time feedback.

### AI Research Student (Mentored by Dr. Suttiwat Madlee)

May 2022 – Mar 2024

Department of Physics, Faculty of Science, Ramkhamhaeng University

Bangkok, Thailand

- Developed a deep learning-based **cosmic ray detection system** using **YOLO models**, achieving **over 80% accuracy** and slashing analysis time from hours to minutes; published findings in *Journal of Physics: Conference Series*.
- Enhanced **X-class solar flare identification accuracy by 30%** via convolutional autoencoders and the integration of multispectral images, resolving class imbalance challenges in solar dataset preprocessing.

## PROJECTS

### VidFlex | [GitHub](#) | Go, Goroutines, Q-Learning

- Engineered a **Q-Learning-based video quality optimizer from scratch in Go** using **Epsilon-Greedy Policy**, dynamically adjusting resolution, bitrate, and frame rate based on real-time network bandwidth and device capabilities.
- Designed a **high-concurrency architecture** with **Goroutines**, simulating 1,000+ concurrent user sessions, and integrated **collaborative filtering** to enhance reward functions with aggregated user preference data.
- Achieved 25% higher user satisfaction** and **40% lower bandwidth costs** compared to static quality policies by optimizing adaptive decision-making for diverse streaming conditions.

### Olympliance | [Frontend](#), [Backend](#), [Published Web](#) | React, Go, PostgreSQL, Docker, GCP

- Developed a **community-driven platform** for science Olympiad students using **React (TypeScript)** and **Redux**, integrating gamified features (badges, leaderboards) and a **Markdown-based editor** to enhance user engagement.
- Implemented a **secure hybrid authentication system** combining **JWT** and **Google OAuth 2.0**, using **HTTP-only cookies** for token storage and **role-based access controls** for moderation.
- Engineered a **RESTful Go backend** (Gin, GORM) with **PostgreSQL**, containerized via **Docker**, and deployed on **Google Cloud Run** for auto-scaling and high-availability performance.

### UniFliXsg | [GitHub](#), [Published Web](#) | SvelteKit, FastAPI, Hugging Face, Docker

- Designed an **AI-powered recommendation engine** using **FastAPI** and **Hugging Face transformers** to analyze user profiles and match them with Singapore university programs, delivering score-ranked results.
- Built a **Progressive Web App (PWA)** with **SvelteKit**, integrating **Google OAuth 2.0** via Auth.js and a **Prisma ORM-managed database** for secure user history tracking and data access optimization.

## TECHNICAL SKILLS

**Languages:** Go, Python, C, C++, Java, JavaScript, TypeScript, HTML, CSS, R, SQL.

**Libraries and Frameworks:** React, Redux, Next.js, SvelteKit, Tailwind CSS, FastAPI, PyTorch, OpenCV, Scikit-learn.

**Tools and Technologies:** Docker, Git, GitHub, GCP, Redis, PostgreSQL, Firebase, PWA, WebSocket.

## ACHIEVEMENTS

**NUS ASEAN Undergraduate Scholarship:** Full-ride scholarship awarded for academic and co-curricular excellence.

**International Olympiad on Astronomy and Astrophysics (IOAA) 2022/2023:** Bronze medals (ranked in top 50%).

**International Astronomy Olympiad (IAO) 2021:** Silver medal in Alpha group (ranked in top 8%).