

Matt Gresham

Student Developer • AI/ML Enthusiast • Systems Builder

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OBJECTIVE

To graduate with a Computer Science major and Mathematics and Business minors, combining technical depth in AI/ML with quantitative and strategic thinking.

EDUCATION

International Community School Bangkok (ICS) Expected Graduation: May 2027

SAT: 1180 (retake pending)

Coursework: AP Computer Science Principles (A), AP Language & Composition, AP Cybersecurity, Precalculus, Physics, Philosophy & Worldview, Honor Band

Additional: Codecademy Intro to IT, FLVS United States History

TECHNICAL SKILLS

Languages: Python, HTML, CSS, Bash, French (intermediate)

AI / ML: Q-Learning, Deep Q-Networks, Minimax, Alpha-Beta Pruning, PyTorch

Tools: Git/GitHub, Linux, Kali Linux, Raspberry Pi, Streamlit, Plotly, Pandas

Security: DVWA, SQL Injection, XSS, Brute Forcing, Prompt Injection, Ethical Hacking

PROJECTS

Pixel-APEX — Q-Learning Game AI Agent

Python Q-Learning Minimax Plotly PyTorch

- Designed a multi-module AI architecture featuring a Q-arbiter that learns which AI advisor to trust through Q-value optimization
- Implemented tabular Q-learning with softmax exploration, decaying epsilon, and a DFS minimax opponent for training
- Built a hyperparameter sweep tool with Plotly visualization for systematic performance analysis and tuning
- Currently expanding to chess using Deep Q-Networks with experience replay and target networks

Expense Tracker — AP CSP Final Project

Python Streamlit Pandas Plotly

- Full-stack financial tool featuring both a command-line interface and a multi-page Streamlit web application
- Includes currency conversion, budget tracking, tax calculations, and interactive data visualizations
- Handles session state management, field validation, and persistent data storage across user sessions

Additional Projects

- **Raspberry Pi DVWA Server** — custom bash setup for practicing SQL injection, XSS, and brute forcing techniques

COMPETITIONS & ACTIVITIES

- **NOAI (Thailand National AI Olympiad)** — Actively preparing for IOAI qualification, studying classical ML, deep learning, natural language processing, and computer vision
- **VEX Robotics** — Bull Run Middle School (2020–22): qualified to States as an individual competitor; came within 1 point of States on a team. ICS Bangkok (2024–25)
- **Chess** — Rated approximately 1700; competitive play that integrates with AI and game theory research interests
- **Honor Band** — Trumpet at university-level repertoire; **Theatre Tech** — Global Citizen Award (2024)
- **Boy Scouts** — Earned Programming Merit Badge and Robotics Merit Badge (2020)

COMMUNITY SERVICE

- **House of Blessings, Bangkok (2023–24)** — Taught students Scratch programming and Canva design, helping them bring their creative ideas to life