Joey Tang

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Summary

Technology enthusiast with 9+ years of experience with coding and computer systems, with 5 years of focused study in cybersecurity specialising in web security. Voracious learner driven by a strong sense of curiosity.

Work Experience

Cybersecurity Engineer (Intern) @ DSTA Nov 2022 - Dec 2022

Developed a Python library for data embedding in machine learning models with Numpy based on the EvilModel paper to aid in research on malware embedding in neural networks. Sped up pre-existing workloads via various optimizations by an average of 50000x (10min to 20ms).

Software Engineer (Intern) @ Intelllex Ltd. Oct 2019 - Dec 2019

Built and updated web scrapers with the Scrapy framework for the purposes of data collection for an ElasticSearch based legal document lookup tool and in-house model training.

Projects/Awards

2nd @ GreyCTF 2025
2nd @ DSTA BrainHack Cyber Defenders Discovery Camp CTF 2025
3rd @ DSTA BrainHack, Today I Learned(Machine Learning) Advanced 2025
1st @ DSTA BrainHack, Today I Learned(Machine Learning) Novice 2024
2nd @ DSTA BrainHack Cyber Defenders Discovery Camp CTF 2024
Hwa Chong Institution Outstanding Student Award 2024
2nd @ SMU Whitehacks 2023
3rd @ WithSecure - BlackHat Asia Qualifications 2023
6th @ Cyberthon CTF 2023
2nd @ DSTA BrainHack, Cyber Defenders Discovery Camp CTF 2023
DSTA Junior College Scholarship 2022-2023

Sieberrsec CTF 2022-2025 Site

Organized an annual capture the flag competition targeted at high school - junior college level participants. Mainly involved in infrastructural work, challenge setting and challenge quality assurance.

Singapore Physics League Site

- Backend development for the contest platform (NodeJS, Express, MySQL)
- Implemented interactive problems for the 2025 rendition of the competition

Distance Algorithm for Automated Feedback using Machine Learning 2022

- Investigated methodologies to cluster Python code submissions for coding assignments based on control flow graphs, Python AST and word2vec
- Implemented automated feedback and code correction based on syntax differences between similar incorrect and correct submissions
- Implemented an automatic grading system for student code submission.
- Technologies used: Linux, Numpy, Pandas, Python, Pytorch, various data visualization libraries

Multimodal Sentiment Analysis @ YDSP 2021

- Research on sentiment analysis of social media posts, using late and early fusion of visual and textual sentiment analysis.
- Attempted to train an embedding model to represent image-text pairs in the same embedding space
- Implemented a late fusion approach of training an LSTM for textual analysis and using CLIP for image analysis, in order to produce a weighted score for the sentiment value of a social media post.
- Technologies used: Linux, Numpy, Pandas, Python, Pytorch, word2vec, CLIP

Education

2017 - 2023 Physics, Mathematics, Economics, Computing at **Hwa Chong Institution** (RP: 90/90)

Skills

Programming Languages Python, C++, C, Rust, Assembly