Joanna Tan

Pittsburgh, USA; Singapore, SGP
+1 (412) 877-2889
joannayxtan@cmu.edu
linkedin.com/in/joanna-t

EDUCATION

Carnegie Mellon University *Expected **May 2026***
B.S. Double in Information Systems AND Statistics and Machine Learning
- Cumulative QPA: 4.0/4.0 (Dean's List, with High Honors)
- Courses: Intro to Machine Learning (**Python**), Principles of Imperative Computation (**C/C++**), Econ & Data Science (**R**), Probability & Statistical Inference II (**R**), Foundations of Software Engineering (**JavaScript/TS**)

PROFESSIONAL EXPERIENCE

Pittsburgh, USA
Researcher, Schwartz Cancer Research Lab *Jan 2024 – Present*
CMU School of Computer Science, Computational Biology Department
- **Python, Graph Neural Networks, OpenCV, Scikit-Image**: developed class of neural network-derived features to identify features descriptive of tumor cell microenvironment, driving the analysis of expansion microscopy tumor tissue images for cancer pathology

Pittsburgh, USA
Researcher, Professor Selman Erol *May 2023 – Present*
CMU Tepper School of Business, Economics Department
- **Python**: Spearheaded U.S. foot-traffic analysis during COVID-19 as case of network hazard manifestation

Quantitative Researcher *Hong Kong SAR*
Pandtong Quantitative Research Limited *May 2023 – Present*
- **PyTorch, NumPy, Tensorflow, GPU, Alpha Modeling, GNNs w/ Attention**: Built and deployed GAT-based model that predicts China's A-share stock prices with 240 features; trained model on GPU
- Boosted Sharpe ratio to 4.8, lowered SD to 4.3% and maximum drawdown to 1.9%, keeping a 6.9% turnover

PROJECT EXPERIENCE

Full Stack Web Developer *Jan 2024 – Present*
NodeBB (Open Source), in a group of 5
- **Git/GitHub**: Implemented recruiter roles, company pages, and Q&A for the NodeBB educational forum
- **HTML/CSS, JavaScript/TypeScript, Bootstrap, Benchpress**: Designed responsive web page, constructed middleware for mounting new pages on respective URLs
- **NodeJS**: Maintained web server side, ran linter and test suites with npm
- **Redis**: Modified database to store recruiter/company information, connected database to show stored data

Game Developer *Aug – Dec 2022*
Blendoku, personal project
- **Python**: Built game in which players sort color blocks in hue order; features: hints, color palettes, timers, etc.
- **Prim's algorithm, DFS, BFS**: Designed self-generating game boards for personalized game experiences

LEADERSHIP EXPERIENCES & ACTIVITIES

Pittsburgh, USA
Co-Director & Data Project Chair *May 2023 – Present*
Students Using Data for Social Good
- **Project Management**: Launched 10 data science projects powering non-profits and local government partners including UPMC, City of Pittsburgh I&P Dept., Alleghany County Dept. of Human Services, and Women's Center & Shelter
- **Event Planning, Leadership**: Piloted data science and AI hackathons, workshops, speaker sessions and data science bootcamps for 200+ members; introduced and managed partnership with CMU's Data Science Club
- Increased number of non-profit partnerships by 3x and member induction rate by 2x

AWARDS & RECOGNITIONS

- **Global Bronze Award (Top 5), Sole author**, "COVID-19 and Employee Social Responsibility" @ 2021 S.-T. Yau High School Science, Economic & Financial Modeling
- **Elected President of Honor Scholars** @ National Honor Society 2021-22
- **Second Prize & Outstanding CTB Entrepreneur (as Team Lead)** @ China Thinks Big 2020-21 National Trials
- **Global Finalist, Sole author**, "Fertility Options and Female Labor Market Outcomes" @ 2020 S.-T. Yau High School Science, Economic & Financial Modeling, @ 2021 International Conference on E-business, Management and Economics