JOSH SANYAL

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EDUCATION

Stanford University   06/2025
B.S. in Computer Science (Artificial Intelligence Track)   GPA: 4.08/4.0
- *Relevant Coursework*: Machine Learning, NLP with Deep Learning, Operating Systems, Computer Organization and Systems, Modern Algorithmic Toolbox, Programming Abstractions, Theory of Computation, Discrete Mathematics
- *Organizations*: TreeHacks Organizer, CS Section Leader, Pear Garage, South Asian Society

EXPERIENCE

Quantitative Trading Intern   **Jane Street**   05/2022–present
- Quantitative Trading Intern in New York during Summer 2023

Software Engineering Intern   **Meta**   06/2022–09/2022
- Built a stateful stream processing framework for realtime detection and filtration of noisy data (bots, click farms) and redundant data to reduce computational burden on downstream ML models
- Performed data analysis to evaluate time and performance benefits of different filtration schemes on various use cases

Research Intern   **Mayo Clinic Banerjee Lab**   06/2019–09/2021
- Trained a sequential deep learning model to predict breast cancer recurrence using EHR data, proposing novel weak supervision methods to overcome severe class imbalance and improve performance by 12%
- Automated the post-market surveillance of adverse medical events by detecting insulin pump failure in clinical notes
- Developed a model to detect mass effect from CT head reports for mortality prediction

Research Intern   **Stanford Quantitative Imaging and AI Lab**   06/2018–08/2019
- Developed an automated pipeline that takes multi-parametric MR images, segments the prostate gland, and aligns images in the same image-space using shape-based registration
- Trained a pixel-level deep learning model that detects prostate tumors and quantifies aggressiveness with improved accuracy and explainability over previous state-of-the-art model

SELECTED PUBLICATIONS

- **Sanyal, J.**, Rubin, D., & Banerjee, I. (2021). A weakly supervised model for the automated detection of adverse events using clinical notes. *Journal of Biomedical Informatics*, 103969.
- **Sanyal, J.**, Tariq, A., Kurian, A. W., Rubin, D., & Banerjee, I. (2021). Weakly supervised temporal model for prediction of breast cancer distant recurrence. *Scientific Reports*, *11*(1), 1-11.
- **Sanyal, J.**, Banerjee, I., Hahn, L., & Rubin, D. (2020). An Automated Two-step Pipeline for Aggressive Prostate Lesion Detection from Multi-parametric MR Sequence. *AMIA Joint Summits on Translational Science*, 552–560.

PROJECTS

HomesteadHacks Website
- Built website with live schedule, workshop content, and algorithmic and CTF-style problems with live leaderboard

Online Mafia Game
- Implemented the popular social deduction game, Mafia, with networking to host centralized multi-device games

TECHNICAL SKILLS

Languages: C/C++, Python, Java, MATLAB, SQL, HTML/CSS, JavaScript, PHP, Octave
Frameworks/Libraries: PyTorch, TensorFlow, Gensim, NLTK, Matplotlib

ACHIEVEMENTS

- International Science and Engineering Fair Finalist   2020
- 3rd place in Mathematics and Computer Science at National JSHS   2021
- USA Computing Olympiad Gold Division   2019
- 5-time AIME Qualifier (highest score 9)   2017–21