Manan Shah

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Education

Stanford University *Stanford, CA*

B.S. in Computer Science (Theory), M.S. in Computer Science (Artificial Intelligence), Minor in Mathematics   *2017 - Winter 2022 (Expected)*

- GPA: 3.84 of 4.0, SAT: 2320 of 2400
- *Relevant Coursework:* Modern Mathematics (MATH 61CM, 62DM, 63DM, 108, 158), Advanced Physics (PHYSICS 61, 63, 65), Statistical Inference (EE 263, STATS 200), Computer Systems (CS 107, 110, 140, 155, 245), Algorithms and Complexity Theory (CS 106X, 124, 154, 161, 168, 254, 261), Data Mining and Machine Learning (CS 229, 224W, 224N, 228, 234, 236, 246, 255, 329S, 379C), Convex Optimization (EE 364A)
- *Clubs and Societies:* ACM (Officer), IEEE (Academic Liaison), Stanford Tech History Project (Research Section Lead), Stanford Undergraduate Research Journal (Senior Editor), Alpha Kappa Psi Pi Tau Chapter (Member)

Experience

Snorkel AI *Palo Alto, CA*

Machine Learning Engineer Intern *Upcoming (Summer 2021)*

- Incoming intern working at the intersection of research, machine learning engineering, and customer-facing product work.

Deep Valley Labs *San Jose, CA*

Research Intern *Aug 2020 - Jan 2021*

- Worked on research and development of technical solutions to confidential problems at the intersection of neuroscience and machine intelligence.

Bridgewater Associates *Westport, CT*

Investment Associate Intern *Jul - Aug 2020*

- Engaged with market fundamentals and research to better understand how the economic machine works.

Google Brain & Google Research and Machine Intelligence *Mountain View, CA*

Student Researcher, Software Engineering Intern *Jun 2018 - Sep 2019*

- **2019:** Student researcher (summer, 20%) with Google Brain conducting computer vision research involving the identification of biological anomalies in Chest X-Ray data. Advised by Shahar Jamshy.
- **2019:** Student researcher (summer) conducting confidential machine intelligence research involving sequence representation learning with Google R&MI. Tools utilized include MapReduce, Tensorflow, Bazel, Python 2.7, and C++11. Advised by Max Vladymyrov.
- **2018:** Software engineering intern (summer) and student researcher (fall, winter, spring) with the Expander team in Google R&MI working on multimodal computer vision frameworks and graph-based machine learning systems. Advised by Ariel Fuxman.

Stanford InfoLab *Stanford, CA*

Student Researcher *Jun 2015 - Sep 2018*

- Conducted research involving embedding graphs in hyperbolic space, advised by Jure Leskovec.
- Created and published a natural language processing based system to predict CDC influenza rates from raw Twitter data.
- Developed and open-sourced algorithms to embed graphs in latent feature spaces for numerous downstream prediction tasks.

Stanford Machine Learning Group *Stanford, CA*

Student Researcher *Sep 2017 - Dec 2017*

- Developed multivariate prediction frameworks to identify heterogeneous treatment effects in clinical data.
- Worked in a joint collaboration with the Stanford Medical School to evaluate real-world outcomes of proposed treatments.

Honors and Awards

- 2017 National Siemens Competition 2nd Place ($50K scholarship)
- 2017 Regeneron Talent Search Finalist ($25K scholarship)
- 2017 Davidson Fellow ($25K scholarship)
- 2016, 2017 Intel International Science and Engineering Fair Medalist
- USA Computing Olympiad Gold Level
- USA Physics and Biology Olympiad Semifinalist
- USA Mathematics Olympiad AIME Qualifier
- USA Invitational Youth Physicists Tournament Champion (2014, 2015)

Selected Publications

- **Shah, M.**, Viswanathan, K., Lu, C.T., Fuxman, A., Li, Z., Timofeev, A., Jia, C. and Sun, C., 2019, November. *Inferring Context from Pixels for Multimodal Image Classification.* 28th ACM International Conference on Information and Knowledge Management (pp. 189-198).
- Veta, M., Heng, Y.J., Stathonikos, N., Bejnordi, B.E., Beca, F., Wollmann, T., Rohr, K., **Shah, M.**, Wang, D., Rousson, M. and Hedlund, M., 2019. *Predicting breast tumor proliferation from whole-slide images: the TUPAC16 challenge.* Medical image analysis, 54, 111-121.
- Lu, F.S., Hou, S., Baltrusaitis, K., **Shah, M.**, Leskovec, J., Sosic, R., Hawkins, J., Brownstein, J., and Gray, J., 2018. *Accurate influenza monitoring and forecasting using novel Internet data streams: a case study in the Boston Metropolis.* JMIR public health and surveillance, 4(1).
- **Shah, M.**, Wang, D., Rubadue, C., Suster, D. and Beck, A., 2017. *Deep learning assessment of tumor proliferation in breast cancer histological images.* In Bioinformatics and Biomedicine (BIBM), 2017 IEEE International Conference on (pp. 600-603). IEEE. Presented at MICCAI 2017.
- **Shah, M.**, 2016, December. *Disease propagation in social networks: a novel study of infection genesis and spread on Twitter.* In Workshop on Big Data, Streams and Heterogeneous Source Mining (pp. 85-102). Presented at KDD 2016.

Technical Skills

- Programming Languages and Tools: C, C++, Python, Java, Mathematica, Shell
- Web Languages and Tools: SQL, HTML5, JavaScript, Express + Node.JS. Engineering Tools: Matlab, R, Tensorflow (with C++ and Python)