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Education

Harvard University, PhD Candidate in Computer Science	2021 - present
▶ Advisor: David Parkes	
Stanford University, BA with Honors in Economics	2016 - 2020
▶ Advisor: Gabriel Carroll	
Valley Christian High School, Valedictorian	2011 - 2015

Work Experience

Facebook AI Research, Visiting Research Engineer with Noam Brown	2020 - 2021
Google Brain, Research Intern with Daniel Duckworth and Arvind Neelakantan	2019 - 2020
Stanford NLP Group, Research Intern with Percy Liang and Tatsunori Hashimoto	2018 - 2019
Asana, Software Engineer	2015 - 2016
Rubin Bioinformatics Lab, Research Intern	2014

Publications

Conferences and Journals (* denotes equal contribution or alphabetical ordering)

- ▶ Anton Bakhtin*, Noam Brown*, Emily Dinan*, Gabriele Farina*, Colin Flaherty*, Daniel Fried*, Andrew Goff*, Jonathan Gray*, Hengyuan Hu*, Athul Paul Jacob*, Mojtaba Komeili*, Karthik Konath*, Adam Lerer*, Mike Lewis*, Alexander H. Miller*, Sasha Mitts*, Adithya Renduchintala*, Stephen Roller*, Dirk Rowe*, Weiyan Shi*, Joe Spisak*, Alexander Wei*, David Wu*, **Hugh Zhang***, Markus Zijlstra.* "Human-level play in the game of *Diplomacy* by combining language models with strategic reasoning." *Science* 2022.
- ▶ **Zhang, Hugh**, Adam Lerer, and Noam Brown "Equilibrium Finding in Matrix Games Via Greedy Regret Minimization." *2022 AAAI Conference on Artificial Intelligence*.
- ▶ Hashimoto, Tatsunori*, **Hugh Zhang***, and Percy Liang. "Unifying Human and Statistical Evaluation for Natural Language Generation." *2019 Conference of the North American Chapter of the Association for Computational Linguistics (Oral)*.

Workshops

- ▶ Zhang, Yuchen, Yi Sun, Jacob Steinhardt, Aditya Ganesh, **Hugh Zhang**, Philip Hwang, Florian Tramer, Percy Liang "Generating Transferable Adversarial Examples via Smooth Max Ensembling." 2017 NeurIPS Adversarial Attacks and Defenses Competition Track.
- ▶ **Zhang, Hugh***, Daniel Duckworth*, Daphne Ippolito, and Arvind Neelakantan. "Trading Off Diversity and Quality in Natural Language Generation." *2021 Workshop on Human Evaluation of Natural Language Processing Systems at the Conference of the European Chapter of the Association for Computational Linguistics*.

Preprints (* denotes equal contribution)

- ▶ **Zhang, Hugh**. "A Simple Adaptive Procedure Converging to Forgiving Correlated Equilibria." 2020. *Senior Thesis in Economics*

Other Technical Writing

- ▶ **Hugh Zhang**, "OpenAI: Please Open Source Your Language Model", The Gradient, 2019.
- ▶ **Hugh Zhang**, "Speech Recognition Systems Are Now Vulnerable To Adversarial Attacks", The Gradient, 2018.

Invited Talks

Unifying Human and Statistical Evaluation for Natural Language Generation

- ▶ NAACL Oral - Minneapolis, MN, USA - June 4, 2019
- ▶ Oxford Applied and Theoretical Machine Learning Group - Oxford, UK - June 20, 2019
- ▶ Apple Siri Lab - Cambridge, UK - June 25, 2019
- ▶ Naver Machine Learning - Seoul, KR - June 28, 2019
- ▶ Seoul National University Vision and Learning Lab - Seoul, KR - July 1, 2019

Teaching

Summer Program in Applied Rationality (SPARC) Instructor Summer 2020/2022

- ▶ High school summer program teaching real-life quantitative thinking skills (<https://sparc-camp.org/>).
- ▶ After spending two years as a student in 2014-2015, I returned as a junior counselor in 2017 and an instructor in 2020 and 2022, leading classes on game theory, unintended consequences, improv, and Go.

Code in Place Section Leader Spring 2020

- ▶ A special one-time online offering of Stanford's introductory CS program open to anyone in the world.
- ▶ Course taught by Professor Chris Piech (<https://compedu.stanford.edu/codeinplace/announcement/>)
- ▶ As a section leader, responsible leading a weekly section and ensuring the success of my sectionees.

Computer Organization & Systems (CS 107) Course Assistant Spring 2020

- ▶ Course taught by Professor Chris Gregg (<http://web.stanford.edu/class/cs107/>)
- ▶ As a course assistant, responsible for grading, holding weekly office hours, and running a weekly (virtual) lab

Natural Language Processing with Deep Learning (CS 224N) Course Assistant Winter 2020

- ▶ Course taught by Professor Christopher Manning (<http://web.stanford.edu/class/cs224n/>)
- ▶ As a course assistant, responsible for grading / advising course projects and holding weekly office hours

Structured Liberal Education (SLE) Writing Tutor Winter 2019

- ▶ SLE is a year-long course in the humanities for first years at Stanford similar to the Great Books programs at other universities. Students live together in the same dorm and read classics in philosophy, religion and literature spanning from ancient Greece to the present day.
- ▶ I participated in the program as a first year and returned in my third year as a writing tutor.

Programming Abstractions (CS 106B) Section Leader Fall 2018

- ▶ Course taught by Professor Julie Zelenski (<http://web.stanford.edu/class/cs106b/>)
- ▶ As a section leader, responsible leading a weekly section, grading, and ensuring the success of my sectionees.

Programming Methodologies (CS 106A) Section Leader Spring 2018

- ▶ Course taught by Professor Chris Piech (<http://web.stanford.edu/class/cs106a/>)
- ▶ As a section leader, responsible leading a weekly section, grading, and ensuring the success of my sectionees.

Starleague Summer Camps Instructor Summer 2017

- ▶ Instructed students in algorithms such as dynamic programming, stacks and queues, shortest paths on graphs, spanning trees, and binary search for the purpose of competing in the USA Computing Olympiad.

Other Activities

The Gradient, Co-creator and Editor 2018 - present

Digital magazine on the cutting edge of machine learning. Our articles have received 1M+ total views and are frequently shared and referenced by top AI researchers in industry and academia on Twitter, Reddit, and Hacker News.

Stanford AI Salon, Co-organizer and Moderator 2019 - 2020

AI Salon is a gathering of members of the Stanford AI Lab to discuss high-level topics in AI and machine learning, and their applications beyond the level of day to day research. We operate in the spirit of French enlightenment era salons

by prohibiting the usage of electronics during discussions. I moderated discussions on topics spanning climate change, robotics, government policy and self driving cars.

Bridge Peer Counseling Center, Counselor 2017 - 2020

The Bridge is a student-run peer-counseling center at Stanford University that offers free anonymous counseling 24/7. We primarily cater to students, but will not turn away members from the general public. During my junior year, I served as the organization's president and was responsible for ensuring all shifts were filled despite a severe staffing shortage.

Parliamentary Debate 2017 - 2019

Member of the Stanford delegation to Worlds 2018 (WUDC) and Nationals 2018 (USUDC). While studying abroad at Oxford, I joined the Oxford Union and delivered the winning floor speech on a debate about US Foreign Policy.

Blog on Presidential Election 2016

Posts on Quora collectively received over 1.6 million views and 15k upvotes. Top writer in multiple categories such as "Politics of the US." Correctly predicted 48/50 states and foresaw Trump's victory months before the election.

High School Football 2011

Running back and outside linebacker for football team my freshman year. Team went undefeated on the way to a conference championship and our starting running back eventually became a 4-star college recruit.

Honors

Go (also known as *weiqi* or *baduk*)

- ▶ US Open, 10th place 2022
- ▶ US Representative to the Samsung Cup (major international tournament) 2019
- ▶ North American Master's Tournament, 6th place (tied). 2013
- ▶ Youngest Team Member on the US Go Delegation to the World Mind Sports Games 2008
- ▶ Redmond Cup Junior Division Champion (under 12 champion in North America) 2008

Other

- ▶ National Science Foundation Graduate Research Fellowship 2022
- ▶ John G. Sobieski Award for Creative Thinking (for my senior honors thesis in Economics) 2020
- ▶ Hoover Institution's National Security Affairs Fellows Mentorship Program 2017
- ▶ NeurIPS Adversarial Attacks and Defense competition, 3rd place (untargeted attack track) 2017
- ▶ Coca-Cola Scholarship Regional Finalist (top 250 out of ~100,000) 2015
- ▶ USA Computing Olympiad Finalist (top 24 high school students nationally) 2014
- ▶ Best Educational App at AngelHack 2013