Melanie Subbiah

New York, NY, 415-350-4761, melanie.s.subbiah@gmail.com

I enjoy creating AI systems that are capable of creative behavior and problem solving. I value ethical and sustainable approaches to AI research.

EDUCATION

Doctor of Philosophy in *Computer Science* Sep. 2020 - *present*
Master of Science in *Computer Science* Sep. 2020 - May 2022
Columbia University, New York, NY
Advisor: Professor Kathleen McKeown
Honors:
- NSF GRFP Honorable Mention 2021 (Comp/IS/Eng - Natural Language Processing)
- Best Paper Award at NeurIPS 2020 (*Language Models are Few-Shot Learners*)
- Presidential and SEAS Fellowship 2020

Bachelor of Arts in *Computer Science* Sep. 2013 - Jun. 2017
Williams College, Williamstown, MA
Thesis: *Using Text Abstraction and LSTM Language Models for Domain-Independent Narrative Generation*
Advisor: Professor Andrea Danyluk
Honors:
- Commencement Phi Beta Kappa Student Speaker
- Highest Honors and Best Thesis Presentation award in Computer Science
- Magna Cum Laude, Phi Beta Kappa, Sigma Xi
- Honorable Mention award in short story writing

EXPERIENCE

Meta, New York, NY Jun. 2022 - Aug. 2022
Research Intern, AI for Augmented Reality Input & Interaction
- Conducted an independent research project with the team (formerly CTRL Labs).
- Developed deep learning strategies to interpret EMG data for human-computer neural interfaces.

OpenAI, San Francisco, CA Aug. 2019 - Aug. 2020
Member of Technical Staff, Language
- Designed and built the evaluation suite for GPT-3 and engineered the model to perform efficiently across many tasks, co-first-author on the GPT-3 paper presented at NeurIPS 2020 (*Language Models are Few-Shot Learners*).
- Consulted with customers following the OpenAI API launch, which provided few-shot access to pretrained language models.

Apple, Cupertino, CA
Machine Learning Engineer, AI Research Sep. 2017 - May 2019
- Directed research in autonomous systems and generative language models.
- Launched and led projects on HVAC efficiency in data centers, reward function design, domain randomization for sim-to-real transfer in computer vision, and effective methods of QA for crowdsourced annotated datasets.

RESEARCH

M Subbiah, K McKeown. *Understanding Identity Signalling in Persuasive Online Text*. Presented at ICWSM, International Workshop on Social Sensing (**talk** and **vision abstract**); Jun 2021; Online.

http://workshop-proceedings.icwsm.org/pdf/2021_38.pdf

Co-organizer of ICLR Workshop on Enormous Language Models. 2021.

TB Brown*, B Mann*, N Ryder*, **M Subbiah***, et al. *Language Models are Few-Shot Learners.* Neural Information Processing Systems; Dec 2020; Montreal, CA. (**Best Paper Award**).
https://papers.nips.cc/paper/2020/hash/1457c0d6bfcb4967418bfb8ac142f64a-Abstract.html

M Subbiah, et al. *Augmenting Training Data with Simulated Images.* Presented at Neural Information Processing Systems, Women in Machine Learning Workshop (**poster**); Dec 2018; Montreal, CA.

M Maher, **M Subbiah**, N Apostoloff. *Cascaded Dataset QA.* Presented at Neural Information Processing Systems, Women in Machine Learning Workshop (**talk** and **poster**); Dec 2018; Montreal, CA.

UC Nygaard, Z Li, T Palys, B Jackson, **M Subbiah**, M Malipatlolla, V Sampath, H Maecker, MR Karagas, KC Nadeau.*Cord blood T cell subpopulations and associations with maternal cadmium and arsenic exposures.* PLoS One. 2017 Jun 29;12(6):e0179606. doi: 10.1371/journal.pone.0179606. PMID: 28662050; PMCID: PMC5491028.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5491028/

SPEAKING

SuperDataScience podcast: GPT-3 for Natural Language Processing. 2022.
https://www.superdatascience.com/podcast/gpt-3-for-natural-language-processing

Wired 5 Levels of Difficulty video: Machine Learning. YouTube. 2021.
https://youtu.be/5q87K1WaoFI?t=892

Invited seminar talks on GPT-3 at Stanford University and New York University. 2020.

Invited Computer Science colloquium talk at Williams College. 2020.

Williams College Commencement Phi Beta Kappa speaker. 2017.
https://www.youtube.com/watch?v=u_I_GkOikXY

MENTORING

Williams College CS Undergraduate Buddy	2022
Computer Science Tutor for Columbia University Athletics	2021
Lumiere Education Research Mentor	2021
OpenAI Scholars Program Development	2020
OpenAI Scholars Program Mentor	2020
Institute of International Education TechWomen Mentor	2019
Williams College Underrepresented Identities in CS Leader	2016-2017
Williams College CS Teaching Assistant (Intro to CS, Data Structures and Algorithms)	2014-2017

ENGINEERING

Python, PyTorch, Git, Linux, Unix, Tensorflow, Java, C++, C