

Melanie Subbiah

New York, NY

✉ melanie.s.subbiah@gmail.com

🌐 <https://melaniesubbiah.github.io>

Education

- 2020 – present 📖 **Ph.D. Computer Science, Columbia University** (*in progress*)
Topic: Natural Language Processing
Advisor: Kathleen McKeown
- 2020 – 2022 📖 **M.S. Computer Science, Columbia University**
Completed as part of MS/PhD.
- 2013 – 2017 📖 **B.A. Computer Science, Williams College**, Magna Cum Laude, Phi Beta Kappa
Thesis: *Using Text Abstraction and LSTM Language Models for Domain-Independent Narrative Generation*
Advisor: Andrea Danyluk

Work Experience

- (Jun.–Aug.) 2022 📖 **Meta** New York, NY
Machine Learning Research Intern - AI for Augmented Reality Input & Interaction
Deep learning to interpret EMG data for human-computer neural interfaces.
- 2019 – 2020 📖 **OpenAI** San Francisco, CA
Member of Technical Staff - Language
Evaluation suite for GPT-3, co-first-author on the GPT-3 paper (Language Models are Few-Shot Learners).
- 2017 – 2019 📖 **Apple** Cupertino, CA
Machine Learning Engineer - AI Research
Data center HVAC efficiency, reward function design, domain randomization for sim-to-real transfer in computer vision, and effective QA methods for crowdsourced annotated data.
- (Jun.–Aug.) 2016 📖 **Facebook** Menlo Park, CA
Software Engineer Intern - Site Efficiency
Internal C++ tool to monitor/visualize the efficiency of multi-threaded functions.
- (Jun.–Aug.) 2015 📖 **Fathom Information Design** Boston, MA
Data Science Intern - Activity Characterization
Clustering and visualizing activity patterns in daily movement data from wearables.
- (Jun.–Aug.) 2014 📖 **Dartmouth College** Hanover, NH
Research Assistant - Epidemiology
Statistical analysis for study on in utero arsenic exposure in Margaret Karagas's lab.

Publications

Conference Proceedings/Findings and Journals

- Storek, A., [Subbiah, M.](#), & McKeown, K. (2023). Unsupervised selective rationalization with noise injection. In *Proceedings*, Association for Computational Linguistics (ACL).
- Wang, G., Chillrud, L., Harwood, K., Ananthram, A., [Subbiah, M.](#), & McKeown, K. (2023). Check-covid: Fact-checking covid-19 news claims with scientific evidence. In *Findings*, Association for Computational Linguistics (ACL).

- Levy, S., Allaway, E., [Subbiah, M.](#), Chilton, L., Patton, D., McKeown, K., & Wang, W. (2022). Safetext: A benchmark for exploring physical safety in language models. In *Proceedings*, Empirical Methods in Natural Language Processing (EMNLP).
- Mei, A., Kabir, A., Levy, S., [Subbiah, M.](#), Allaway, E., Judge, J., ... Wang, W. (2022). Mitigating covertly unsafe text within natural language systems. In *Findings*, Empirical Methods in Natural Language Processing (EMNLP).
- Brown*, T., Mann*, B., Ryder*, N., [Subbiah*, M.](#), Kaplan, J. D., Dhariwal, P., ... Amodei, D. (2020). Language models are few-shot learners. In *Proceedings*, Neural Information Processing Systems (NeurIPS, **Best Paper Award**).
- Nygaard, U., Li, Z., Palys, T., Jackson, B., [Subbiah, M.](#), Malipatlolla, M., ... Nadeau, K. (2017). Cord blood t cell subpopulations and associations with maternal cadmium and arsenic exposures, PLoS One.

Refereed Workshops

- [Subbiah*, M.](#), Bhattacharjee*, A., Hua, Y., Kumarage, T., Liu, H., & McKeown, K. (2023). *Detecting harmful agendas in news articles*. WASSA Workshop at ACL.
- [Subbiah, M.](#), & McKeown, K. (2021). *Understanding identity signalling in persuasive online text*. International Workshop on Social Sensing at ICWSM.
- Maher, M., [Subbiah, M.](#), & Apostoloff, N. (2018). *Cascaded dataset qa*. Women in Machine Learning at NeurIPS.
- [Subbiah, M.](#), lesser, J., & Apostoloff, N. (2018). *Augmenting training data with simulated images*. Women in Machine Learning at NeurIPS.

*Co-first authors

Teaching

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| Spring 2024 | <ul style="list-style-type: none"> • Guest Lecture, <i>Global Teaching Labs - Uruguay</i>
Taught by Yi-Tong Tseo, MIT & University of Montevideo |
| Fall 2023 | <ul style="list-style-type: none"> • Teaching Assistant & Guest Lecture, <i>Natural Language Generation and Summarization</i>
Taught by Kathleen McKeown, Columbia University |
| Summer 2023 | <ul style="list-style-type: none"> • Instructor, <i>Discrete Mathematics</i>
Columbia University |
| Spring 2023 | <ul style="list-style-type: none"> • Reviewer, <i>Quick Start Guide to Large Language Models</i>
Written by Sinan Ozdemir, Pearson Publishing • Guest Lecture, <i>Computational Journalism</i>
Taught by Mark Hansen, Columbia University |
| Fall 2022 | <ul style="list-style-type: none"> • Teaching Assistant and Guest Lecture, <i>Natural Language Generation and Summarization</i>
Taught by Kathleen McKeown, Columbia University |
| Fall, Spring 2021 | <ul style="list-style-type: none"> • Tutor, <i>Introductory Computer Science & Discrete Mathematics</i>
Columbia University Athletics |
| Fall 2014 – Spring 2017 | <ul style="list-style-type: none"> • Teaching Assistant, <i>Introductory Computer Science and/or Data Structures</i>
Williams College |

Honors and Awards

- 2023
 - **Top 100 AI Achievements from 1943-2021**, *BenchCouncil AI100*
Recognized for my work on the GPT series of models.
 - **Fellowship**, *Amazon CAIT PhD Fellowship*
Funding for two years of the PhD awarded by the Columbia-Amazon AI Center.
- 2021
 - **NSF GRFP**, *Honorable Mention*
Awarded an honorable mention for my submission.
- 2020
 - **Best Paper**, *NeurIPS*
Awarded for "Language Models are Few-Shot Learners".
 - **Fellowship**, *Presidential and SEAS Fellowship*,
Columbia University funding award for incoming PhD students.
- 2017
 - **Commencement Speech**, *Phi Beta Kappa Student Speaker*
Voted to speak at Williams College graduation by the Phi Beta Kappa students.
 - **Computer Science Thesis**, *Highest Honors & Best Thesis Presentation award*
Williams College computer science department awards for the graduating class.
 - **Short Story Writing**, *Honorable Mention*
Williams College writing competition.

Invited Speaking

Research Talks and Posters

- 2023
 - **Talk on "Detecting Harmful Agendas in News Articles"**
WASSA Workshop at ACL
- 2021
 - **Talk on "Understanding Identity Signalling in Persuasive Online Text"**
International Workshop on Social Sensing at ICWSM
- 2020
 - **NLP seminar talk on "Language Models are Few-Shot Learners"**
New York University
Stanford University
Columbia University
Philosophy and Machine Learning Conference @ NYU
G-Research
 - **Computer Science colloquium on Language Models**
Williams College
- 2018
 - **Poster on "Augmenting Training Data with Simulated Images"**
Women in Machine Learning Workshop at NeurIPS

Outreach Speaking

- 2023
 - **Half-day interactive seminar on ChatGPT**
Academy for Teachers' Master Class for 25 high school teachers
 - **Interviewed on "Artificial: Episode 2, Selling Out"**
The Wall Street Journal's "The Journal" podcast (a top 10 daily news podcast in the US)
 - **NLP with ChatGPT**
Pearson Publishing's AI Catalyst Conference
 - **Educational talk on ChatGPT**
Columbia University Council of Deans
Columbia University Faculty
- 2022
 - **Guest for "GPT-3 for Natural Language Processing."**
SuperDataScience podcast (50,000 listens)

Invited Speaking (continued)

- 2021 • **Interviewed on "5 Levels of Difficulty: Machine Learning"**
Wired Magazine YouTube video (2 million views)
- 2017 • **Phi Beta Kappa Student Speaker**
Williams College Commencement (~2,000 attendees)

Service

- 2023 • **Panelist**, *Columbia Engineering School Graduate Council info panel on PhD programs*
- 2022 • **Reviewer**, *EMNLP*
 - **Reviewer**, *In2Writing Workshop @ ACL*
 - **Reviewer**, *Columbia Pre-submission Application Review program for underrepresented candidates*
- 2021 • **Co-organizer**, *Workshop on Enormous Language Models @ ICLR*
- 2020 • **Reviewer**, *Columbia Pre-submission Application Review program for underrepresented candidates*
 - **Talk**, *Columbia's "Demystifying the Dissertation" talk series for undergrads*
- 2019 • **Reviewer**, *Bay Area Machine Learning symposium*

Mentoring

- 2021 – 2023 • **Research Mentor**, *Columbia University research students*
 - Akankshya Mishra (masters)
 - Sean Zhang (CS Bridge)
 - Maksym Bondarenko (undergrad)
 - Kate Harwood (masters) → WASSA workshop paper, NLP freelancing
 - Adam Storek (undergrad) → ACL paper, Columbia CS PhD
 - Bobby Yilun Hua (undergrad) → WASSA workshop paper, Cornell PhD program
 - Yu-Chen Huang (undergrad)
- 2022 • **Mentor**, *Williams College CS undergraduate buddy program*
- 2021 • **Research Mentor**, *Lumiere Education's high school student research program*
- 2020 • **Program Organizer and Research Mentor**, *OpenAI Scholars deep learning transition program*
- 2019 • **Mentor**, *Institute of International Education TechWomen program*
- 2016 – 2017 • **Leader**, *Williams College Underrepresented Identities in CS group*