Arjun Subramonian (they/them) Email: arjunsub@cs.ucla.edu

Computer Science Department Website: arjunsubramonian.github.io

University of California, Los Angeles

Publications: Semantic Scholar, Google Scholar

Core Organizer, Queer in AI

GitHub: github.com/ArjunSubramonian

## Research Interests

graph machine learning, natural language processing, fairness, justice, ethics

## Education

PHD in Computer Science; University of California, Los Angeles (2021-Present), GPA: 3.940 Amazon Science Hub Fellow, NSF MENTOR Fellow, Eugene V. Cota-Robles Fellow *Advisors:* Yizhou Sun, Kai-Wei Chang

BS in Computer Science; University of California, Los Angeles (2018-2021), GPA: 3.927 Summa Cum Laude

# Work Experience

Research Intern; Meta Society and Responsible AI (2024)
Research Intern; Meta Society and Responsible AI (2022)
Research Intern; Microsoft Research FATE (2022)
Privacy Research Intern; Snap, Inc. (2021)

Allen NLP Research Engineering Intern; Allen Institute for Artificial Intelligence (2021)

Software Engineering Intern; Microsoft Corporation (2020)

Software Engineering Intern; Get Heal, Inc. (2019)

# Conference Papers, Journal Papers, and Book Chapters

Networked Inequality: Preferential Attachment Bias in Graph Neural Network Link Prediction, *URL* Arjun Subramonian, Levent Sagun, Yizhou Sun ICML 2024 (27.5% acceptance rate)

Graph Learning Frontiers @ NeurIPS 2023 Oral (15.4% acceptance rate)

Evaluating the Social Impact of Generative AI Systems in Systems and Society, *arXiv* Irene Solaiman\*, Zeerak Talat\*, ..., **Arjun Subramonian** 

Oxford University Press Handbook on Generative AI

Motif-Driven Contrastive Learning of Graph Representations, URL

Shichang Zhang, Ziniu Hu, **Arjun Subramonian**, Yizhou Sun

Transactions on Knowledge and Data Engineering

Factoring the Matrix of Domination: A Critical Review and Reimagination of Intersectionality in AI Fairness, *URL* Anaelia Ovalle, Arjun Subramonian, Vagrant Gautam, Gilbert Gee, Kai-Wei Chang AIES 2023 Oral (7.7% acceptance rate)

Bound by the Bounty: Collaboratively Shaping Evaluation Frameworks for Queer AI Harms, *URL* Organizers Of QueerInAI, ..., Arjun Subramonian, ..., Jess de Jesus de Pinho Pinhal AIES 2023 (28.9% acceptance rate)

# It Takes Two to Tango: Navigating Conceptualizations of NLP Tasks and Measurements of Performance, *URL* Arjun Subramonian, Xingdi Yuan, Hal Daumé III, Su Lin Blodgett

Findings of ACL 2023 (41.89% acceptance rate)

# [Best Paper] Queer In AI: A Case Study in Community-Led Participatory AI, URL

Organizers of QueerInAI, ..., Arjun Subramonian, ..., Luke Stark

FAccT 2023 (24.5% acceptance rate)

## On the Discrimination Risk of Mean Aggregation Feature Imputation in Graphs, URL

Arjun Subramonian, Kai-Wei Chang, Yizhou Sun

NeurIPS 2022 (25.6% acceptance rate)

#### Queer in AI, URL

Organizers of QueerInAI, ..., Arjun Subramonian\*, ..., Jeffrey Xiong\*

XRDS: Crossroads, The ACM Magazine for Students, Volume 28, Issue 4

# On Dyadic Fairness: Exploring and Mitigating Bias in Graph Connections, URL

Arjun Subramonian

ICLR 2022 Blogpost Track (32% acceptance rate)

## Harms of Gender Exclusivity and Challenges in Non-Binary Representation in Language Technologies, URL

Sunipa Dev, Masoud Monajatipoor\*, Anaelia Ovalle\*, **Arjun Subramonian**\*, Jeff M Phillips, Kai-Wei Chang

EMNLP 2021 Oral (9.8% acceptance rate)

Women in Machine Learning @ NeurIPS 2021

# MOTIF-Driven Contrastive Learning of Graph Representations, URL

Arjun Subramonian

AAAI 2021 Undergraduate Consortium (17% acceptance rate)

#### Automated, Cost-Effective Optical System for Accelerated

Antimicrobial Susceptibility Testing (AST) Using Deep Learning, URL

Calvin Brown, ..., Arjun Subramonian, ..., Aydogan Ozcan

ACS Photonics

## Estimating the Ages of FGK Dwarf Stars Through the Use of GALEX FUV Magnitudes, URL

Sara Crandall, Graeme H. Smith, Arjun Subramonian, Kelly Ho, Evelyn M. Cochrane

The Astronomical Journal

# Workshop Papers

#### Stop! In the Name of Flaws:

Disentangling Personal Names and Sociodemographic Attributes in NLP, arXiv

Vagrant Gautam, Arjun Subramonian, Anne Lauscher, Os Keyes

Gender Bias in NLP @ ACL 2024

### Prompting Multilingual Large Language Models to Generate Code-Mixed Texts:

The Case of South East Asian Languages, URL

Zheng-Xin Yong, ..., **Arjun Subramonian**, ..., Alham Fikri Aji

Computational Approaches to Linguistic Code-Switching @ EMNLP 2023

#### Critical Technopolicy and Reflexivity For Proactive Gender-Inclusive NLP

Davi Liang, Anaelia Ovalle, **Arjun Subramonian**, Alicia Boyd Queer in AI @ ACL 2023

Group Excess Risk Bound of Overparameterized Linear Regression with Constant-Stepsize SGD, *URL* Arjun Subramonian, Levent Sagun, Kai-Wei Chang, Yizhou Sun Trustworthy and Socially Responsible Machine Learning @ NeurIPS 2022

You Reap What You Sow: On the Challenges of Bias Evaluation Under Multilingual Settings, *URL* Zeerak Talat, ..., Arjun Subramonian\*, ..., Oskar van der Wal\* Challenges & Perspectives in Creating Large Language Models @ ACL 2022

How to Make Virtual Conferences Queer-Friendly: A Guide, *URL* Organizers of QueerInAI, ..., Arjun Subramonian, ..., Nyx McLean Widening NLP @ EMNLP 2021

Motif-Driven Contrastive Learning of Graph Representations, arXiv Shichang Zhang, Ziniu Hu, Arjun Subramonian, Yizhou Sun Self-Supervised Learning @ WWW 2021

Queer | Inclusive | Badass, URL Arjun Subramonian Resistance AI @ NeurIPS 2020

# **Preprints**

Understanding "Democratization" in NLP Research, in submission, arXiv Arjun Subramonian\*, Vagrant Gautam\*, Dietrich Klakow, Zeerak Talat

Theoretical and Empirical Insights into the Origins of Degree Bias in Graph Neural Networks, in submission, arXiv Arjun Subramonian, Jian Kang, Yizhou Sun

Survey of Bias In Text-to-Image Generation: Definition, Evaluation, and Mitigation, in submission, arXiv Yixin Wan, Arjun Subramonian, ..., Kai-Wei Chang

Weisfeiler and Leman Go Measurement Modeling: Probing the Validity of the WL Test, in submission, arXiv Arjun Subramonian, Adina Williams, Maximilian Nickel, Yizhou Sun, Levent Sagun

BLOOM: A 176B-Parameter Open-Access Multilingual Language Model, in submission, arXiv Teven Le Scao, ..., Arjun Subramonian, ..., Thomas Wolf

Selecting Core Subgraphs for Efficient Graph Neural Network Training, URL Arjun Subramonian\*, Harsh Chobisa\*

Twitter Saliency Algorithm: Identifying Unintentional Harms to Gender Non-Conforming Individuals, *URL* Arjun Subramonian\*, Michael McKenna\*

Fairness and Bias Mitigation: A practical guide into the AllenNLP Fairness module, URL Arjun Subramonian

# **Invited Talks**

2024 - 'Queer-Inclusive' AI: Contesting the Power Structures and Logics of Machine Learning, IBM Research Tech for Justice Seminar
2024 - Queer In AI: A Case Study in Community-Led Participatory AI, Data & Society; Slides
2023 - Bias, Discrimination, and Power: Graphs and Natural Language, KUNGFU.AI; Slides
2023 - Bias and Power in NLP, USC ISI Natural Language Seminar; Event, Slides, Video
2022 - Bias and Power in NLP (for future consultants), Paris; Slides
2022 - Bias and Power in NLP, NLP Seminars at Dublin College University; Slides
2022 - Guest Lecture: Bias in Natural Language Processing, COM SCI 263: NLP, UCLA; Slides, Video
2022 - Queer in AI: Making AI Queer-Inclusive and Prioritizing Grassroots D&I Activism,
Humlab, Umeå University; Slides, Video
2022 - Prioritizing Grassroots D&I Activism: Queer in AI,
AAAI Workshop on Diversity in Artificial Intelligence; Event, Slides
2022 - Prioritizing Grassroots D&I Activism: Queer in AI, Nike Sport+AI Conference; Event, Slides
2021 - How Can I Make My Hackathon Queer-Inclusive?, Hackcon IX; Slides, Video
2019 - An Automated and Cost-Effective System for Early Antimicrobial Susceptibility Testing

Using Optical Fibers and Deep Learning, UCLA HHMI Day; Slides

# **Invited Panels**

2024 - Artificial Intelligence and Democratic Values Roundtable, Center for AI & Digital Policy; Event 2024 - UCLA Computer Science PhD Visit Day Panel 2024 - UCLA ACM AI Outreach GALA Panel 2024 - Queer Computation: A Critical Unmaking, Coding Inquiry, McMaster 2024 - AI in the Time of Generative Models: Ensuring that Diverse Voices Are Heard, AAAI Workshop on Diversity in AI; *Event* 2023 - Students with Disabilities Panel, UCLA 2023 - US AI Policy: Next Steps 2023 - Queer in AI National AI Advisory Committee Briefing; Event, Briefing, Video, Press, Findings 2023 - Partnership on AI Inclusive Data Collection Workshop 2023 - Data & Society Salon Series on Responsible AI in Government 2022 - Students with Disabilities Panel, UCLA 2022 - Accessibility and Inclusion Panel, Neuromatch Academy; Video 2022 - Gender as a Variable in NLP, NAACL Queer in AI Workshop; *Event, Video* 2022 - NYU Center for Responsible AI Roundtable on Accessible AI Education 2022 - Co-Opting AI: Queer, NYU's Institute for Public Knowledge; Event, Video 2022 - How Do We Improve DEI in AI?, Nike Sport+AI Conference 2021 - Eye on A.I.: Equity & Inclusion in A.I. Technology, Toronto Public Library; *Video* 2021 - Intersectionality Panel, NAACL; Video

#### **Honors**

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2024 - Amazon Science Hub Fellowship; Site
2023 - LoG Conference Top-10 Reviewer
2023 - Queer in AI Ford Foundation Research Grant; Site
2023 - FAccT Best Paper Award; Site
2022 - NSF MENTOR Fellowship
2021 - Allen AI Outstanding Intern of the Year; Site
2021 - Major League Hacking Top 50; Site
2021 - UCLA Samueli School-Wide Outstanding Bachelor of Science; Site
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2021 - UCLA Chancellor's Service Award; Site
2021 - UCLA Samueli Engineering Achievement Award in Student Welfare; Site
2021 - UCLA Eugene V. Cota-Robles Fellowship
2021 - Boeing Company Scholarship
2021 - Brian J. Lewis Endowment
2018-2021 - UCLA Dean's Honors List
2020 - Computing Research Association Outstanding Undergraduate Researcher Honorable Mention; Site
2020 - IBM Quantum Challenge
2019 - 3rd Place Award for Best Hack @ Rose Hack, Major League Hacking
2017 - Siemens Competition Regional Finalist; Site
2016 - Award of Achievement, Association for Computing Machinery, San Francisco Bay Area Professional Chapter
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# Service

# • Reviewing:

#### - Conferences:

- \* NeurIPS (2024, D&B 2024, Ethics 2024, 2023, D&B 2023, Ethics 2023)
- \* FAccT (2024, 2023, 2022)
- \* LoG (2024, 2023, 2022)
- \* KDD (2024, 2023)
- \* ACL (Ethics 2024)
- \* WebConf (2024)

## - Workshops:

- \* NeurIPS (GLFrontiers 2023, GLFrontiers 2022, TSRML 2022)
- \* NAACL (TrustNLP 2022, WOAH 2022, SRW 2022)
- \* ACL (TrustNLP 2023, WOAH 2023, Queer in AI 2023, BigScience 2022)

## • Conference organization:

- LoG Outreach Chair (2025)
- FAccT Socials Chair (2024, 2025)
- NeurIPS Affinity Workshops Chair (2022, 2023)
- KDD EDI Day Chair (2023)
- NAACL Accessibility Chair (2022)

## • Workshop and social organization:

- In Código of Hope: Possibilities of Global Solidarity and Activism in Academic Environments @ FAccT 2024
- Global AI Cultures @ ICLR 2024
- Collaboratively Developing Evaluation Frameworks for Queer AI Harms @ FAccT 2022

#### - Queer in AI:

- \* ICML (2024, 2022, 2021)
- \* NeurIPS (2021)
- \* ICLR (2024)
- \* AAAI (2021)
- \* NAACL (2022)
- \* ACL (2023)

#### • Policy:

- NIST AI Safety Institute Consortium
- FINDINGS: Exploring the Impact of AI

# • Equity, Diversity, & Inclusion (EDI):

- Queer in AI core organizer
- Guides on Publication Accessibility, Quality, and Inclusivity and Poster and Talk Accessibility, Quality, and Inclusivity
- UCLA Samueli Standing Committee on Diversity member
- AllenNLP Hacks organizer
- QWER Hacks co-founder, organizer, panelist, and judge
- ACM at UCLA EDI director
- ACM AI at UCLA outreach director
- "You Belong in AI!" podcast creator and producer

## • Teaching:

- UCLA: Computer Science 32 (2023), Computer Science Summer Institute (2022, 2023)
- North Hollywood High School: Intro to Machine Learning
- EDI: Guide on Gender and Pronouns for Instructors

# Mentoring

I am fortunate to mentor brilliant students:

- Margaret Capetz
- Naisha Agarwal

# References

Yizhou Sun (yzsun@cs.ucla.edu) Kai-Wei Chang (kwchang@cs.ucla.edu) Levent Sagun (leventsagun@meta.com)