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

Computer Science Department Website: arjunsubramonian.github.io

University of California, Los Angeles

Core Organizer, Queer in AI

Publications: Semantic Scholar, Google Scholar

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; FAIR Cost and Alignment (2024)

Research Intern; FAIR Society and Responsible AI (2022)

Research Intern; Microsoft Research FATE (2022)

Privacy Research Intern; Snap, Inc. (2021)

AllenNLP 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

Theoretical and Empirical Insights into the Origins of Degree Bias in Graph Neural Networks, *arXiv* Arjun Subramonian, Jian Kang, Yizhou Sun NeurIPS 2024 (25.8% acceptance rate)

Understanding "Democratization" in NLP Research, *arXiv*Arjun Subramonian\*, Vagrant Gautam\*, Dietrich Klakow, Zeerak Talat
EMNLP 2024

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, URL

Vagrant Gautam, Arjun Subramonian, Anne Lauscher, Os Keyes

## 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**

An Effective Theory of Bias Amplification, in submission, arXiv

Arjun Subramonian, Samuel Bell, Levent Sagun, Elvis Dohmatob

Strong Model Collapse, in submission, arXiv

Elvis Dohmatob, Yunzhen Feng, Arjun Subramonian, Julia Kempe

# 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, 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 - From "Democratization" to Personal Names: Reimagining NLP Practices Towards Justice,

UC Berkeley Data Science for Social Justice Workshop; Slides

2024 - 'Queer-Inclusive' AI: Contesting the Power Structures and Logics of Machine Learning, IBM Research Tech for Justice Seminar; *Slides* 

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 - Challenges and Perspectives for queer and/or disabled communities presented by AI in HCI,

ICML Queer in AI Workshop; *Event* 

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
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)
  - \* ICLR (2025)
  - \* 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:
  - Evaluating Evaluations: Examining Best Practices for Measuring Broader Impacts of Generative AI @ NeurIPS 2024

- 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
- Pranav Subbaraman

#### References

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