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 Organizer, Queer in AI GitHub: github.com/ArjunSubramonian

#### Research Interests

machine learning, networks, natural language processing, fairness, 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

An Effective Theory of Bias Amplification, URL

Arjun Subramonian, Samuel Bell, Levent Sagun, Elvis Dohmatob

ICLR 2025 (32.08% acceptance rate)

Strong Model Collapse, *URL* 

Elvis Dohmatob, Yunzhen Feng, Arjun Subramonian, Julia Kempe

ICLR 2025 Spotlight (5.1% acceptance rate)

SHADES: Towards a Multilingual Assessment of Stereotypes in Large Language Models, URL

Margaret Mitchell, ..., Arjun Subramonian, ..., Zeerak Talat

NAACL 2025 (22% acceptance rate)

Theoretical and Empirical Insights into the Origins of Degree Bias in Graph Neural Networks, URL

**Arjun Subramonian**, Jian Kang, Yizhou Sun

NeurIPS 2024 (25.8% acceptance rate)

Understanding "Democratization" in NLP Research, URL

Arjun Subramonian\*, Vagrant Gautam\*, Dietrich Klakow, Zeerak Talat

EMNLP 2024 (20.8% acceptance rate)

# 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

## Pairwise Matching of Intermediate Representations for Fine-grained Explainability, arXiv

Lauren Shrack, Timm Haucke, Antoine Salaün, Arjun Subramonian, Sara Beery CV4Animals @ CVPR 2025

### Stop! In the Name of Flaws:

Disentangling Personal Names and Sociodemographic Attributes in NLP, URL

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**

Agree to Disagree? A Meta-Evaluation of LLM Misgendering, arXiv Arjun Subramonian, Vagrant Gautam, Preethi Seshadri, Dietrich Klakow, Kai-Wei Chang, Yizhou Sun

auto-fpt: Automating Free Probability Theory Calculations for Machine Learning Theory, arXiv Arjun Subramonian, Elvis Dohmatob

Survey of Bias In Text-to-Image Generation: Definition, Evaluation, and Mitigation, 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

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

# Public Scholarship

Queer AI Harms and Proposed Policy Interventions, *URL* Organizers of QueerInAI, ..., Arjun Subramonian, ...

AI and Queer Communities, *URL*Arjun Subramonian

FINDINGS: Exploring the Impact of AI, *URL*National AI Advisory Committee, ..., Arjun Subramonian, ...

Queer in AI National AI Advisory Committee 2023 Briefing, *URL* Organizers of QueerInAI, Arjun Subramonian

Rebuilding Trust: Queer in AI Approach to Artificial Intelligence Risk Management, *URL* Organizers of QueerInAI, Ashwin S\*, William Agnew\*, Hetvi Jethwani\*, **Arjun Subramonian**\*

### **Invited Talks**

2025 - From "Democratization" to Personal Names: Reimagining NLP Practices Towards Justice, USC ISI Natural Language Seminar; *Event*, *Slides*, *Video* 

2024 - From "Democratization" to Personal Names: Reimagining NLP Practices Towards Justice, Algorithmic Decision Systems (ADS) Reading Group, UC Berkeley; *Slides* 

2024 - Queer In AI: A Case Study in Community-Led Participatory AI, Microsoft GLEAM Security; *Slides* 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

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2022 - Bias and Power in NLP (for future consultants), Paris; Slides
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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 - QICSE Panel, UC Berkeley

ICML Queer in AI Workshop; *Event* 

2024 - Challenges and Perspectives for queer and/or disabled communites 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 - Two Sigma PhD Fellowship Nominee, 1 of 6 students selected by UCLA
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2024 - Amazon Science Hub Fellowship; Site

2024 - Google PhD Fellowship Nominee, 1 of 4 students selected by UCLA

2024 - JP Morgan PhD Fellowship Nominee, 1 of 2 students selected by UCLA

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)
- \* ICML (2025)
- \* ICLR (2025, Workshops 2025)
- \* FAccT (2025, 2024, 2023, 2022)
- \* LoG (2024, 2023, 2022)
- \* KDD (2024, 2023)
- \* ACL (Ethics 2024)
- \* ICCV (2025)
- \* 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 (2024)
- FAccT Socials Chair (2024)
- 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 (2025, 2022); ACL (2023)

- Policy:
  - Queer in AI Policy Working Group
  - NIST AI Safety Institute Consortium
- Equity, Diversity, & Inclusion (EDI):
  - Queer in AI organizer
  - UCLA Samueli Standing Committee on Diversity member
  - AllenNLP Hacks organizer
  - QWER Hacks organizer
  - ACM AI at UCLA organizer
- Teaching:
  - UCLA: Computer Science 32 (2023), Computer Science Summer Institute (2022, 2023)

# Mentoring

I am fortunate to have mentored brilliant students:

- Margaret Capetz (PhD at University of Washington)
- Naisha Agarwal
- Pranav Subbaraman
- Steven Swee

### References

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