Samantha Dalal

Information Science Researcher

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SUMMARY

I focus on Human-AI collaboration, specifically how users navigate and build trust in opaque automated systems. Using mixed methods, I study how workers interact with current algorithmic management and engage in co-design with workers to develop systems that incorporate their expertise and augment their decision making capabilities.

Research Skills
Applied machine learning with scikit-learn, network analysis w/networkx & Gephi, NLP modeling w/BERT, causal inference, data visualization w/seaborn library, large scale data manipulation w/Apache Spark, regression analysis, Python, R, SQL, user research, ethnographic methods, quantitative and statistical analysis, participatory design, prototyping, speculative design, narrative analysis, project management

EDUCATION

University of Colorado — Boulder, CO
PhD, Information Science — 2020 - present
Advisor: Brian Keegan

University of California - Santa Barbara (UCSB) — Santa Barbara, CA
BA, Statistics — 2019
BA, Economics

PROFESSIONAL EXPERIENCE

Center for Information and Technology Policy (CITP) @ Princeton — Boulder, CO
Research Contractor — May - Aug 2022

- ➔ Designed and executed 2-day multistakeholder participatory workshop with 37 attendees on developing solutions for food delivery systems
- ➔ Developed and led six problem finding and user design exercises in Miro during the workshop
- ➔ First author on internal findings report and CHI case study report relating to workshop

Black Swan — Lake Forest, CA
Data Science Intern — Jan - July 2020

- ➔ Led design and deployment of internal dashboards to track KPIs for consulting team

- ➔ Maintained and updated documentation and ReadMe files for internal dashboards on company Gitlab
- ➔ Developed, tested, and deployed improvements to existing ETL sentiment analysis & report generation infrastructure to streamline consulting team's workflow using Twitter Firehose, PySpark, Gephi, and DataBricks
- ➔ Implemented BERT NLP model with Apache Spark for sentiment detection and entity recognition to build graphical representation of millions of Twitter conversations

Genentech San Francisco, CA
Neighborhood Work Environments (NWE) Intern Jun - Sep 2018

- ➔ Led effort to move KPI tracking for work environments team from spreadsheet format to live Google Data Studio dashboards
- ➔ Developed and maintained documentation for dashboards to on-board team members

ACADEMIC PUBLICATIONS

Peer-Reviewed Conference Papers

Simpson, E., **Dalal, S**. and Semaan, B. "Hey, Can You Add Captions?": Infrastructuring for Accessibility on TikTok. In *Proceedings of 2022 Conference on Computer Supported Cooperative Work (CSCW)* (2022)

(In submission) **Dalal, S**., Chiem, N., Karbassi. N, Li, Y. and Monroy-Hernandez. A. Understanding Human Intervention in the Platform Economy: A case study of an indie food delivery platform. In *Proceedings of 2023 Conference on Computer Human Interaction (CHI)* (2023)

Conference Posters, Talks, Workshop Papers

Dalal, Samantha. Keegan, Brian. Governing the Commons of Platform Labor Data Assets. *Position paper for Civic Technologies: Research, Practice, and Open Challenges Workshop at CSCW '20* https://cscwcivictechnologies.wordpress.com/papers/

Grant Proposals

Dalal, Samantha. Who's Driving the Rideshare Economy: Developing Worker-Centered Data Narratives. Proposal to The University of Colorado Engage Program. 16 April 2021

RESEARCH EXPERIENCE

Explainable AI for Predictive Maintenance — University of Colorado, Boulder

Collaborators: Brian Keegan, Robin Burke, Jessie Smith (CU Boulder) Nikhil Shenoy & Rob Baranowksi (Colvin Run)

- ➔ Designed and implemented a research study to understand how explainable AI could augment low-tech workflow management systems

- ➔ Conducted semi-structured interviews and utilized thematic analysis to prototype wireframes for WMS with XAI interventions that prioritized preserving workers' sense of agency in the workplace.

Developing Data Narratives with Denver Rideshare Drivers - University of Colorado, Boulder
Collaborators: Colorado Jobs with Justice (JwJ), Colorado Independent Drivers United (CIDU), Drivers Seat Cooperative (DSC)

- ➔ Designed, proposed, and executed research project to understand how technology, in the form of platform data cooperatives, can be used to support worker organizing efforts.
- ➔ Implementing a wage study, demographic survey, and interviews to recount the stories of the rideshare driver community through data they create and own.
- ➔ Developing interactive dashboard w/Plotly Dash to visualize & present findings

Navigating Work, Life, and Privacy: An Empirical Exploration of Bossware - University of Colorado, Boulder
Collaborators: Andrés Monroy-Hernández, Mona Wang, Sayah Kapoor (Princeton)

- ➔ Designed and implemented qualitative interview study research protocol to understand impact of workplace surveillance on employee perceptions of and behavior towards workplace technology
- ➔ Leading paper writing process as first author

Critical Infrastructuring on Creative Labor Platforms — University of Colorado, Boulder
Collaborators: Ellen Simpson & Bryan Semann (CU Boulder)

- ➔ Utilized an inductive coding approach with interview data to identify how creators on TikTok must construct their own critical infrastructures to meet community norms around accessibility.
- ➔ Paper forthcoming in CSCW 2022

Sustainable Alternatives for Food Delivery - University of Colorado, Boulder
Collaborators: Andrés Monroy-Hernández, Elizabeth Watkins, Nikoo Karbassi, Ngan Chiem (Princeton)
Zheng Yao & Yuhan Li (Carnegie Mellon University)

- ➔ Conducting interviews with 30+ stakeholders within the food delivery ecosystem to understand the role of technical and value systems in supporting cooperative models of food delivery platforms.
- ➔ In charge of maintaining relationships with community partners
- ➔ Managing undergraduate RAs in interview, analyses, and writing processes
- ➔ Paper under submission at CHI'23

Determining Predictors of Job Market Success — University of California, Santa Barbara
Collaborators: Peter Khun (UCSB)

- ➔ Independently designed and implemented a research project to analyze what aspects of a LinkedIn profile are most influential in determining job attainment post-MBA degree
- ➔ Customized selenium driver & wrote python script to pull publically available data from LinkedIn profiles
- ➔ Utilized R and ordinal logistic regression models to compare skills to work experience as predictors of labor market success
- ➔ Wrote and submitted findings as a senior thesis project for UCSB's Economics Department

TEACHING EXPERIENCE

University of Colorado, Boulder — Boulder, CO
Instructor of Record (GPTI)

- ➔ INFO 4601: Technology Ethics & Policy — Summer 2022
  - ◆ Built out 5-week curriculum covering ethical foundations, free speech & content moderation, digital privacy, and bias

& fairness in ML

University of Colorado, Boulder Boulder, CO
Graduate Teaching Assistant

- ➔ INFO 1101: Computational Thinking - Intro to Python programming Fall 2020
- ➔ INFO 3402: Information Exposition - Data visualization in Python Spring 2022

Guest Lectures

- ➔ INFO 2301: Quantitative Reasoning - Fall 2021
  - ◆ Lecture on cybersecurity & permutations
- ➔ CSCI 7000: Writing for Computer Science - Fall 2021
  - ◆ Lecture on ethical considerations in CS research & citational justice
- ➔ CSCI 7000: Recent Advances in Computer Vision - Fall 2021
  - ◆ Lecture on cybersecurity risks in computer vision research

SERVICE and AWARDS

Awards

Community Based Research Fellowship ($8,000) - CU Boulder

- ➔ Won competitive campus-wide fellowship to develop data narratives and understand domestication of algorithmic work with local Colorado rideshare & delivery drivers

Mentoring

Women in STEM Mentorship Program a UCSB (2017); Department of Information Science incoming students mentor (2021)

Department of Information Science Graduate Student Association

President, 2021-2022
Treasurer, 2020-2021