Ashwin Singh

(they/them)

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Education

Universitat Pompeu Fabra (UPF)   Barcelona, Catalunya
MSc. in Intelligent Interactive Systems - Big Data Track   September 2023 - July 2025 [Expected]
CGPA: 9.61/10 (Department Rank: 1)
Awarded 50% Tuition Waiver for Academic Excellence.

Indraprastha Institute of Information Technology Delhi (IIIT Delhi)   New Delhi, India
B.Tech. in Computer Science and Applied Mathematics   August 2017 - June 2021
CGPA: 8.73/10
Dean's List of Academic Excellence (2019-2020, 2020-2021).
Dean's Letter of Appreciation (for significant achievements in thesis; <**2%** students).

Experience

Research Assistant (R1)   Barcelona, Catalunya
Departament of Justice, Government of Catalunya & UPF   May 2024 – Present

- Designed an algorithm to compute annual recidivism statistics, reducing error rates from 5% to nearly 0%; also facilitated real-time assessments for the calibration of risk-levels.
- Conducting research towards enacting fairness reforms within their risk-assessment system (RisCanvi).

Machine Learning Engineer (Part-Time)   Barcelona, Catalunya
Headout: A Travel Experiences Curated Marketplace   May 2023 – Aug 2023, Nov 2023 - Present

- Leading ML for personalization (ranging from algorithm design to development and experimentation), with a focus on recommendations to improve customer retention and diversification of experiences for promoting new verticals.
- Designed a personalized recommender system by clustering users into interpretable segments, resulting in a relative uplift of 20% in click-through rates, 10% in predictive power and 5% growth in customer retention.
- Overseeing and managing end-to-end data pipelines involving clustering, drift monitoring, candidate generation, and inference APIs (utilizing BigQuery, Airflow, Redis, Cloud Functions and App Engine).

Diversity, Equity and Inclusion Admin   Seattle, Washington, USA [Remote]
Queer In AI   April 2022 – April 2023

- Advancement leader of Queer in AI, responsible for leading community research, drafting inclusive policies, organizing workshops and socials at academic conferences, mentoring volunteers and fundraising.
- Led paper writing with over 50 co-authors on the role of participation, decentralization and intersectionality in shaping Queer in AI's programs. Awarded Best Paper at FAccT 2023.
- Collaborated with META, Twitter to document limitations of bias bounties, critiquing their ownership, incentives, accessibility, and efficacy as an audit mechanism. Full Paper accepted at AIES 2023.
- Conducted participatory design to launch a yearly survey on queer experiences in AI, facilitating an intersectional understanding of barriers related to outness, social climates, harassment, and discrimination.

Research Associate   Hyderabad, India
PreCog, IIIT Hyderabad — Advisor: Prof. Ponnurangam Kumaraguru   July 2021 – Aug 2022

- Led research collaborations across academia and nonprofits, wrote grant proposals and mentored students.
- Collaborated with Digital Green to understand the impact of content-specificity and knowledge-transfer within networks on the adoption of agricultural practices by farmers. Full Paper accepted at ICTD 2022.
- Developed a taxonomy of dark patterns in install-incentivizing apps on Google Play which compromise sensitive data and incur financial loss to users. Configured an anomaly detection algorithm to detect lockstep behaviors exhibited by fraudulent reviews to boost app ratings in real-time. Paper accepted at ACM Hypertext 2022, awarded **$2100** in travel grant by ACM SIGWEB, and blog featured in the AI Ethics Brief.
- Received funding from Flipkart (largest Indian e-commerce service provider) for a grant proposal on creating an e-commerce credibility score against return-to-origin cancellations using publicly available information.

Teaching

Practices Instructor
26518-T1: Fairness, Accountability, Transparency & Ethics in Data Processing
Course Instructor: Prof. Carlos Castillo

UPF Barcelona
January 2025 - Present

Teaching labs on satisfiability of anonymity criteria, discrimination discovery, and fairness-aware modeling (for regression and classification tasks), to final-year computer science students (Github 🔗).

Head Teaching Assistant
CSE648: Privacy and Security in Online Social Media
Course Instructor: Prof. Ponnurangam Kumaraguru

IIIT Delhi
January 2021 - May 2021

Designed coursework, homeworks and exams involving data collection (web and social media) and analysis (ML, NLP and Graphs). Led eight teaching assistants in a class of 250+ junior, senior and graduate students.

Teaching Assistant
MTH201: Probability and Statistics
Course Instructor: Prof. Acushla Saraswat

IIIT Delhi
January 2020 - May 2020

Conducted tutorials, graded student submissions and typeset class notes in LaTeX.

Selected Publications - Citations: 52, h-index: 3 (Google Scholar)

Collaboratively Shaping Evaluation Processes for Queer AI Harms
Ashwin Singh, N Dennler, A Ovalle, L Soldaini, A Subramonian, H Tu, W Agnew, A Ghosh + 5

AIES '23
Montreal, Canada

Queer In AI: A Case Study in Community-Led Participatory AI
Ashwin Singh, Organizers of Queer In AI

FAccT '23
Chicago, USA

Erasing Labor with Labor: Dark Patterns and Lockstep Behaviors on Google Play
Ashwin Singh, A Arun, P Malhotra, P Desur, A Jain, DH Chau, P Kumaraguru

Hypertext '22
Barcelona, Spain

Diagnosing Data from ICTs to Provide Focused Assistance in Agricultural Adoptions
Ashwin Singh, M Subramanian, A Agarwal, P Priyadarshi, S Gupta, K Garimella, P Kumaraguru +5

ICTD '22
Seattle, USA

Skills

Methods: Clustering, Recommender Systems, Experiment Design, A/B Testing, Social Network Analysis, Anomaly Detection, Surveys, Participatory Design

Tools & Technologies: Github, MongoDB, SQL/BigQuery, Gephi, Plotly, seaborn, numpy, pandas, scikit-learn, pyTorch, SHAP, Looker, MixPanel, AirFlow, GCP, App Engine, GTM

Programming Languages: Python, R, JAVA

Relevant Coursework: Critical Data Studies[†,§], Data Driven Social Analytics[†], Machine Learning[†], Web Intelligence[†,§], Natural Language Processing[†], Computational Semantics[†], Research Methods[†,§], Statistical Inference, Stochastic Processes and Applications, Probability and Statistics, Linear Optimization
(§ = **Matrícula de honor**, † = **Graduate Courses**).

Academic Service

Organizer
Queer In AI Affinity Workshops

NeurIPS 2022, AAAI 2022, NeurIPS 2021

- Moderated a panel on caste in technological institutions that involved scholars and activists from backgrounds spanning anthropology, STS, policy, law and economics. (Read Twitter Thread 🔗)
- Hosted a talk on the inconsideration of queer and transgender identities within the digitization of criminal records in India and its implications for automated decision systems.

References

- **Dr. Carlos Castillo**, ICREA Research Professor, Universitat Pompeu Fabra, Barcelona: chato@icrea.cat

- **Dr. Ponnurangam Kumaraguru**, Professor, IIIT Hyderabad: pk.guru@iiit.ac.in

- **Dr. William Agnew**, CBI Postdoc Fellow at CMU and Organizer, Queer in AI: wagnew@andrew.cmu.edu