

# Dhruv Agarwal

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## RESEARCH INTERESTS

Responsible AI (LLMs/GenAI), Human-AI Interaction

## EDUCATION

**Cornell University** | ITHACA, USA

PhD, Information Science | 2022–Present

Advisor: Aditya Vashistha

**Ashoka University** | SONIPAT, INDIA

BS, Computer Science | 2016–2020

CGPA: [3.84](#) / 4.0 | Major: [3.98](#) / 4.0 | **Magna cum laude**

Thesis: Incentivizing Drivers to Collect Off-Route Pollution Data

## EXPERIENCE

**Accenture Labs** | RESEARCH INTERN

Jun 2024 – Aug 2024 | San Francisco, USA

- Investigated racial bias in AI models. Models trained outside the US show lesser bias.
- Logit-level evaluations of GPT, LLaMA, Mistral, and their instruction-tuned variants.
- Developed prompting and agentic techniques to mitigate bias in language models.

**Microsoft Research** | RESEARCH FELLOW

Jun 2020 – Jul 2022 | Bangalore, India

- Developed Turn2Earn, a novel way of improving data coverage using vehicular crowdsensing.
- Mixed-effects modeling of air pollution using wind dispersion models and NASA pollutant data.
- Developed PollutionMapper, a system to analyze large-scale geospatial data and visualize it.

**Microsoft Research** | RESEARCH INTERN

May 2019 – Aug 2019 | Bangalore, India

- Designed a greedy algorithm to maximize city coverage for drive-by sensing.
- Library open-sourced by Microsoft: [github.com/microsoft/Modulo](https://github.com/microsoft/Modulo)
- Implemented by Ola Cabs (Uber's key competitor in India) – 300% coverage improvement.

**Mirabilis Design** | SOFTWARE ENGINEERING INTERN

Dec 2018 – Jan 2019 | Chennai, India

- Generated execution traces of ARM executables from QEMU source code for VisualSim software.

## PUBLICATIONS

1. AI Agents Mitigate Racial Bias in Large Language Models.  
**D. Agarwal**, T. Kim, M. Saha. J. Ackerman. [in progress]
2. AI Suggestions Homogenize Writing Toward Western Styles and Diminish Cultural Nuances.  
**D. Agarwal**, M. Naaman, A. Vashistha. Under review.
3. 'One Style Does Not Regulate All': Moderation Practices in Public and Private WhatsApp Groups.  
F. Shahid, **D. Agarwal**, A. Vashistha. ACM CSCW 2025.
4. Conversational Agents to Facilitate Deliberation on Harmful Content in WhatsApp Groups.  
**D. Agarwal**, F. Shahid, A. Vashistha. ACM CSCW 2024.
5. "If it is easy to understand then it will have value": Examining Perceptions of Explainable AI with Community Health Workers in Rural India. ACM CSCW 2024.

D. Agarwal\*, C. T. Okolo\*, N. Dell, A. Vashistha.

6. PollutionMapper: Identifying Global Air Pollution Sources. ACM COMPASS 2023.  
D. Agarwal, P. Kumar, S. Iyengar.
7. India's "Aadhaar" Biometric ID: Structure, Security, and Vulnerabilities. Financial Crypto 2022.  
D. Agarwal\*, P.R. Tiwari\*, P. Jain, S. Dasgupta, D. Gupta. (21% acceptance rate)
8. Understanding Driver-Passenger Interactions in Vehicular Crowdsensing. ACM CSCW 2021.  
D. Agarwal, S. Agarwal, V. Singh, S. Iyengar, M. Jain. **Methods Recognition Award**.
9. Modulo: Drive-by Sensing at City-scale on the Cheap. ACM COMPASS 2020.  
D. Agarwal, S. Iyengar, M. Swaminathan, et al. **Best Paper Award**.
10. Poster: An Alternative to India's Reservation Policy. ACM COMPASS 2020.  
D. Sinha, O. Sahasrabudhe, D. Agarwal, D. Gupta.
11. Poster: System for Vehicle Selection in Drive-by Sensing. ACM SenSys 2019.  
D. Agarwal, S. Iyengar, M. Swaminathan.

## TECHNICAL SKILLS

Python • JavaScript • React • GeoSpatial tools  
ML (Sklearn & PyTorch) • MongoDB • Flask

C/C++ • PHP • Bash • Git • SQL • Android  
Photoshop • Raspberry Pi • Arduino • L<sup>A</sup>T<sub>E</sub>X

## AWARDS AND RECOGNITION

**Quad Fellow**

**Cornell University Fellow**

**Winner – Edge Computing Track**

**Undergraduate Research Excellence Award**

**Student Life Excellence Award**

**Dean's List – All 8 Semesters**

**Alok Bhatla True Marian Award**

Schmidt Futures 2023  
Cornell University 2022  
Microsoft Global Hackathon 2021  
Computer Science Department, 2020  
Office of Student Life, 2020  
Dean of Academic Affairs, 2016–2020  
High School Instituted Award, 2016

## SERVICE

Reviewer – ACM CHI

2023–2024

Reviewer – ACM CSCW

2023–2024

Reviewer – ACM COMPASS

2021–2023

## MEDIA COVERAGE

**The Hindu**

Ola, Microsoft to analyse street-level air quality

**The Business Insider**

Ola and Microsoft come together to measure air quality on the streets of India's national capital

**The Economic Times**

Ola partners with Microsoft Research to study street-level air quality in Delhi-NCR

## SELECTED COURSEWORK

Math Discrete Math • Probability & Statistics • Linear Algebra  
Systems Computer Organization • OS • PLDI (PLs) • Networks  
Theory Algorithms • Advanced Algorithms • Theory of Computation  
Security Computer Security • Blockchain  
AI/ML Intro to ML • Advanced ML • Unstructured Information • NLP • Advanced LLMs  
HCI Data Viz • New Geographies of Information Age • ICTD  
  
TA Intro to ML • Discrete Math • HCI

## PAST PROJECTS

### **Exploring Human Bias in FIFA Ratings**

Prediction of football players' future FIFA ratings from their previous ratings and on-ball actions.

### **Fake News Challenge**

An NLP approach to the Stance Detection problem using a novel "staged" technique.

### **Beating Facial Obfuscation with ML**

Convolutional autoencoder to recreate blurred, pixelated or blocked facial images.

### **COVID-19 Multilingual Knowledgebase**

FAQ website to combat misinformation surrounding the crisis in local Indian languages.

### **VAHN: Vehicle Accident Hazard Notifier**

A real-time smart city system for automatic detection and reporting of road accidents.

### **Ashoka Menu and Shuttle Bot**

Chatbot to inform students about mess menu, shuttle timings. **800 users** and 190k messages.

### **Energy Sensing System for Dorms**

Hardware prototype to monitor real-time energy wastage expressed in monetary loss.