SARTHAK ARORA

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EDUCATION

PLAKSHA UNIVERSITY Chandigarh, India
Post Graduate Diploma 2021 – 2022
Major in Computer Science CGPA: 3.88/4.0; Department Rank 2

RAMJAS COLLEGE, DELHI UNIVERSITY New Delhi, India
Bachelor of Science 2015 – 2018
Major in Statistics; Minor in Economics CGPA: 7.176/10.0; First Division

PUBLICATIONS

Sarthak Arora, Michael Warner, Ariel Chamberlain, James C. Smoot, Nikhil Raj Deep, Claire Gorman, and Anthony Acciavatti. "Remote Sensing for Sustainable River Management: Evaluating Watershed Vulnerability for Ganga, the World's Most Densely Populated River Basin." (Previously: Application of Analytical Hierarchical Process and its Variants on Remote Sensing Datasets) PLoS Water (under review); arXiv preprint arXiv:2412.12113 (2024).

Organizers of Queer in AI, **Sarthak Arora**, "Queer in AI: A case study in community-led participatory AI." Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency. 2023.
Won best paper 🏆

Harleen Kaur Bagga, Jasmine Bernard, Sahil Shaheen, and **Sarthak Arora**. "Was that Sarcasm?: A Literature Survey on Sarcasm Detection." arXiv preprint arXiv:2412.00425 (2024).

RESEARCH EXPERIENCE

COLLABORATIVE EARTH Remote
Research Scientist Jan 2023 – Present
- Using **Computer Vision** and GEE to identify and cluster "Naalas" for the Ganges river from Satellite Images.
- Used GIS Tools and datasets to create a comprehensive **site suitability map** for Coastal Forests Wetlands Lab.
- Conducted **fieldwork** around the Ganges River which involved drone surveys and meeting stakeholders.
- Leading **fundraising** efforts for the Ganges Lab, finalists for the Frontier CDR Prepurchase 2024.

WUUII INC. Remote
ML Engineer Jun 2024 – Present
- Utilizing a double-encoder double-decoder **Vision Transformer** model to create a shared latent space between streetview and aerial data to identify features across modalities with enhanced geolocation.
- Performed Co-location using **LightGlue** and **Pykrige** to identify feature mask locations from Ortho Imagery.
- Fine-tuned **Segment Anything** on streetview imagery and translated the identified features onto an aerial map to integrate polygon features and depth information for improved Wildfire Risk Assessment.
- Representing the spread of wildfires using a **Graph Attention Network** model to understand factors that facilitate fire propagation and inform preventive strategies.

UNIVERSITY OF CALIFORNIA, BERKELEY Remote
Research Scientist Sep 2022 – Sep 2024
- Conducting a time-series **Anomaly Detection** of Powerplant Emissions to find areas of policy improvement.
- Analyzed Quantitative and Qualitative Regressors for a **Wildfire Survey** conducted by MWPA.

UNIVERSITY OF CALIFORNIA, BERKELEY Berkeley, CA
Research Scholar Apr 2022 – Jul 2022
- Conducted Research to develop a wildfire **risk assessment** tool under the mentorship of Dr. Thomas Azwell.
- Worked on **Remote Sensing** datasets for the state of California to predict wildfires with an accuracy of **82%**.

AI FOR GOOD FOUNDATION Remote

ML Engineer Feb 2022 – Feb 2024

- Worked on the Climate SDG project, backed by the UN Development Program and was presented at **COP28**.
- Created a **GraphML** based Visualisation for Climate Entities using Named Entity Recognition and Neo4J.
- Cleaned Scraped data using **LDA** for topic modeling, leading to a Recall value of **83.5%** in noise detection.

QUEER IN AI Remote

Organizer Jan 2022 – Present

- **Program Chair** for the Queer in AI Workshop at **NeurIPS** for the years 2022-2024.
- Working on the [AI Harms and Proposed Policy Interventions](#) to identify areas for AI policy improvement.
- Conducting and publishing research to raise awareness of queer issues in the general AI community.
- Working on the Graduate Application Aid program, aimed at supporting queer applicants through funding and mentorship, led to scholarships worth **$130,000** awarded to **130+** applicants across **30** countries.

INDUSTRY EXPERIENCE

PREDLI AB **Sweden,** Remote

ML Engineer Sep 2023 – Feb 2024, May - June 2024

- Created a Machine Learning Model trained on Geophysical Layers such as Bedrock, Magnetism, Resistivity, Gravity and Satellite Imagery for Mineral Site Prediction in **Sweden** with an accuracy of **89%**.
- Improved LLM Performance on a Tweet generator using a **RLHF** model based on Tweet engagement by 10pp.

EIRENE AI Remote

ML Engineer Jul - Sep 2024

- Fine-tuned **RT-DETR** to detect fire and smoke in real-time, to be deployed on-edge on CCTV cameras.

INDIFI TECHNOLOGIES Gurgaon, India

Data Scientist Aug 2022 – Jul 2023

- Created a model which predicts Default Risk with **96%** precision by analyzing CIBIL Trend using **LSTM**.
- Used **Fuzzy Logic** to match addresses for verification, leading to a reduction in manual checks by ~4 hours.

PROJECTS

- Created a weather prediction tool using FourCastNet and GPT for the **OpenAI** Climate Hackathon.
- Created a real-time face and facial-features detector on live videos using **HAAR** and **CNN.**
- Created a Machine Learning model for Drug Discovery using **GANs**.

TALKS AND COURSES

- Delivered a talk on "South Asian Feminism/s in the 21st Century" at **ICML 2022**.
- Completed the Hilary 2024 School of Climate Change course offered by **Oxford Climate Society**.
- Completed the **Climate Change AI** Summer School 2024.
- Cleared Actuarial papers **CT1** (Financial Mathematics), **CT3** (Probability and Mathematical Statistics), **CT4** (Models), **CT5** (Contingencies), **CT6** (Statistical Methods) from the Institute and Faculty of Actuaries (IFoA).

TEACHING

- Taught subjects such as ML, Research, and Leadership to students based out of Africa with **Belong.**
- **Teaching Assistant** for the Economics Courses at Ramjas College, Delhi University.

ACHIEVEMENTS

- Silver Medalist for academic excellence at Plaksha University, TLP Batch of 2022.
- Winning Team for the Plaksha Entrepreneurial Challenge Lab where we pitched a Mental Health startup.
- Won the Mercy Corps Hackathon for predicting commodity prices for Disaster relief in Africa using LSTMs.