Aatman Vaidya

SDE | Tattle Civic Tech

 aatmanvaidya.github.io   @ aatmanvaidya@gmail.com   aatmanvaidya   in aatmanvaidya   Google Scholar

Education

Jul 2023 **Aug 2019**	**Ahmedabad University** B.Tech in Computer Science & Engineering (CSE) *Advisor: Dr. Amit Nanavati*	**Ahmedabad, India**

Experience

Present **Aug 2023**	**Tattle Civic Tech** [⊕] *Software Development Engineer - I and Data Engineer	Advisors: Tarunima Prabhakar, Denny George* → Building Open Source tools and datasets to understand and respond to **inaccurate** and **harmful** content. → Projects: Uli - Browser extension that redact's slurs and abusive content, archive's problematic content, and collectively pushes back against **online gender-based violence**. [⊙] - Uli de-normalizes everyday violence that people of **marginalized genders** experience online in India. → Feluda - Configurable Engine for analysing **multilingual** and **multimodal** content. Feluda helps fact-checkers in combating misinformation. [⊙] → Feluda is being used as the back-end analysis engine on a national Deepfake detection **WhatsApp helpline** (Deepfakes Analysis Unit) by the Misinformation Combat Alliance for 2024 Indian Lok Sabha elections. This helpline is funded by Meta. [Media Coverage: The Hindu	Financial Express	Mashable	Meta Press Release]	**Delhi, India**
May 2022 **May 2021**	**Ahmedabad University** [⊕] *Undergraduate Research Fellow	Advisors: Prof. Shilpa Pandit, Prof. Keyur Joshi* Projects: Analysing people's psychological and physiological effects and experiences in the second wave of COVID-19, Perceivable Image Blur Quality Index	**Ahmedabad, India**

Publications

S=In Submission, C=Conference, W=Workshop, P=Preprints, J=Journal

[W.1] **The Uli Dataset: An Exercise in Experience Led Annotation of oGBV** 📄
Arnav Arora, Maha Jinadoss, Cheshta Arora, Denny George,..., Aatman Vaidya, Tarunima Prabhakar
Workshop on Online Abuse and Harms at North American Chapter of the Association for Computational Linguistics (NAACL)
★ Outstanding Paper Award   **[NAACL'24]**

[C.3] **Analysing the Spread of Toxicity on Twitter** 📄
Aatman Vaidya, Seema Nagar, Amit Nanavati
ACM International Conference on Data Science and Management of Data   **[CODS-COMAD'24]**

[C.2] **Forecasting the Spread of Toxicity on Twitter** 📄
Aatman Vaidya, Seema Nagar, Amit Nanavati
IEEE International Conference on Cognitive Machine Intelligence   **[IEEE CogMI'23]**

[C.1] **Overview of the 2023 ICON Shared Task on Gendered Abuse Detection in Indic Languages** 📄
Aatman Vaidya, Arnav Arora, Aditya Joshi, Tarunima Prabhakar
International Conference on Natural Language Processing   **[ICON'23]**

[J.1] **Coping Resources of Young People Experiencing COVID-19 Second Wave in India: A Preliminary Study** 📄
Shipla Pandit, Aatman Vaidya, Aangi Shah, Eshva Shah, ..., Isha Iyer
Journal of Psychosocial Research   **[JPR'2022]**

Select Research Projects

Modelling Spread of Hate Speech   Aug'22 - Present
Advisors: Dr. Amit Nanavati, Dr. Seema Nagar (IBM Research India)

> Worked on a novel model to capture the spread of hate speech on Twitter. Our model is based on user behaviour and captures two important factors: a) toxicity exists as a spectrum, i.e. hate is not binary, and b) toxicity is not conserved in a network. [**Full Paper@CODS-COMAD'24**]

> We extended this work by studying toxicity as a time series and forecasted it using transformer-based models and graph CNNs. While network structure matters, we found that explicit connections may not always imply influence. [**Full Paper@IEEE CogMI'23**]

> An in-depth empirical analysis led us to find users change behaviour with time and is impacted by its neighborhood. Developing a model that captures this finer phenomenon gives insights into creating strategies to mitigate hate speech. [**In Submission**]

Tracking Online Gender Based Abuse   May'23 - Present
Advisors: Tarunima Prabhakar

> Tracking **online harassment** that Women Politicians are facing in the 2024 Lok Sabha elections. Performing a cross-platform study across YouTube, Instagram and Facebook to understand the engagement that women politicians receive on their social media. Mapping how does harassment spread across online platforms? What kind of content posted by women candidates is commonly targeted?

> Created a YouTube Dataset to track gender-based violence using a crowd-sourced slur list by Gender Right Researchers and Activists. String matching algorithms and NLP models were used to analyse text in Indic languages. [⛓]

Content Moderation for Indian Languages   Jul'23 - Present
Advisors: Aditya Joshi

> Improving NLP systems for content moderation in Indian languages. Adding context to models to reduce social biases.

Talks

"Modelling Hate Speech on a Social Network"

> Social Network Analysis Class (CSE533) *Invited Guest Lecturer* [%]   Apr'24 (Ahmedabad University, India)

"Building NLP classifiers to detect Hate Speech"

> ACM Winter School on Network Science *Invited Speaker*   Dec'23 (Ahmedabad University, India)

"Tools to respond to Online Gender Based Violence"

> Digital Citizen Summit *Invited Speaker*   Nov'23 (Remote)

Achievements

Bosch Future Mobility Challenge | Semi-Finalist [⊕] Programmed and Engineered an **autonomous driving car** to navigate a miniature city. One of the 24 teams out of 118, and **only team** to represent **India** for the finals in Cluj, Romania. [▣] [▇]

Ingenious Hackathon 3.0 | Winner Open Source Track

CODS-COMAD'24 Travel Grant For attending CODS-COMAD'24 at Bangalore, India

Academic Service

Shared Task Organiser	ICON'23 (Gendered Abuse Detection in Indic Languages) [%]
Reviewer	ACL Rolling Review'24

Teaching and Leadership Roles

Discrete Mathematics (MAT 101), Ahmedabad University *Teaching Assistant*   Nov'22 - Mar'23

> Responsibilities included evaluating assignments, and helping students with the coursework.

Center for Learning and Empowerment (NGO) *Volunteer Teacher* [⊕]   Jul'23 - Apr'23

> Taught 20+ secondary school kids mathematics for an entire academic year, at a tribal village in Jharkhand, India.

Reading Group, Ahmedabad University *Organiser* [⛓]   Dec'21 - May'22

> Organized a weekly Reading Group focused on reading recent and classical papers in Computer Science.

Programming Club, Ahmedabad University *Content Head and Event Organiser* [⛓]   Jul'20 - May'22

> Co-organized and curated events around Web Development, Machine Learning and Competitive Programming.

Google Android Study Jams Facilitator *Instructor* [▇] [⊕]   Dec'21 - Jan'22

> Conducted 3 sessions teaching Android Development in Kotlin to 40+ students.

Usable Pasts, Sustainable Futures *Student Volunteer* [⊕] [▣] [▤]   Jan'23

> Worked under Dr. Tejaswini Niranjana to understand how historically effective practices around Food, Clothing and Housing (*roti-kapda-makan*) can help mitigate climate change and public health issues.

Skills

Languages	Python, JavaScript, Elixir C/C++, Kotlin, GraphQL
Frameworks/ Libraries	PyTorch, Tensorflow, Nodejs, OpenCV, networkx, CameraX, Elasticsearch, Sequelize
Databases and Developer Tools	MySQL, PostgreSQL, Docker, AWS (S3, EKS, EC2), aws-cli, Kubernetes (kubectl), CI/CD, Android Studio, Firebase