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** [🌐]   **Delhi, India**
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: Mashable | The Hindu | Meta Press Release]

May 2022 **May 2021** — **Ahmedabad University** [🌐]   **Ahmedabad, India**
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

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) 2024
⭐ 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. Developing a model that captures this finer phenomenon gives us better insights into creating strategies to mitigate hate speech. [**In Submission**]

Sentiment Analysis of Online Harassment Towards Women Wrestlers   Aug'23

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

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) [%]

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* [O]   Jul'20 - 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* [O]   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, 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

Software and Open Source Contributions

> **Tattle Civic Tech:** Feluda - git , Uli - git