## Arvindh Arun

③ arvindh75.github.io ② iiith@arvindharun.com ☐ github.com/arvindh75 ☐ Google Scholar in linkedin.com/in/arvindh75 twitter.com/arvindh\_a

### Education

### May 2024 | International Institute of Information Technology (IIIT H)

Hyderabad, India

Aug 2019

B.Tech. + MS by Research, Computer Science & Engineering

- > Cumulative GPA 9.07/10.00
- > Dean's Academic List 2020-21 M (Top 10%), 2021-22 M (Top 15%), 2022-23 S (Top 5%)
- > Dean's Research List 2022-23 (Top 5%)
- > Represented the College Football Team, 5x medals in Track & Field, 3x medals in Inter-house football

## Experience

#### Present Jan 2024

### DeepMind (formerly Google Research) | InfoNet

Remote

24 Student Research Collaborator

Working on leveraging topological information from user interactions to gather insight on the quality of user-generated content.

# Jul 2023

#### JPMorgan Chase | Corporate Investment Banking

Bangalore, India

May 2023

Applied AI/ML Intern
> Worked on mining interesting insights from transactional databases for Root Cause Analysis.

- > Utilized streaming frameworks such as PySpark to optimize the workflow.
- > Proposed a new framework utilizing unsupervised GNNs inspired by the CTR prediction domain.
- > Received a Pre-placement Full-time offer for my contributions.

## Aug 2022

## The Chinese University of Hong Kong | Department of Systems Engineering

Hong Kong

**Jun 2022** | Research Intern | Advisor: Prof. Hong Cheng

- > Worked on the domain of Clustering/Community detection in Dynamic social networks and studying their properties.
- ${\color{blue} >} \ \ \text{Focused on minimizing the time complexity and the space complexity of the existing real-time solutions.}$
- > Explored various state-of-the-art solutions and built a visualization tool to study their efficacy.

#### May 2024

#### Precog Research Group [♥]

Hyderabad, India

May 2021

Undergraduate Researcher | Advisor: Prof. Ponnurangam Kumaraguru "PK"

- > Analyzing social networks and other large networks primarily using their network information.
- > Georgia Institute of Technology, Atlanta
  Collaboration with Prof. Polo Chau on analyzing the Quantitative and Qualitative impact of fraudulent behavior on social networks and their identification.
- > Adobe Research, Bangalore

Collaboration with **Dr. Ramasuri Narayanam** on exploring the landscape of group fairness in unsupervised contrastive learning based GNNs.

> Indiana University, Bloomington

Collaboration with **Prof. Jisun An** on analyzing the changes to the hate speech dynamics after the liberalization of social media platforms.

#### May 2021

#### NemoCare

Bangalore, India

Jan 2021

Cross Platform Development Intern

Built the first prototype of the Android and iOS app for this Google accelerated, Asia Hardware Battle 2019-winning startup led by a Forbes 30 under 30 recipient.

#### **Publications**

[4] X-posing Free Speech: Examining the Impact of Moderation Relaxation on Online Social Networks [PDF]

<u>Arvindh Arun</u>\*, Saurav Chhatani\*, Jisun An, and Ponnurangam Kumaraguru (\* = Equal Contribution)

8<sup>th</sup> Workshop on Online Abuse and Harms (WOAH) at NAACL, Mexico City, Mexico [WOAH @ NAACL '24]

[3] Oral CAFIN: Centrality Aware Fairness inducing IN-processing for Unsupervised Representation Learning on Graphs [PDF | code]

<u>Arvindh Arun</u>, Aakash Aanegola, Amul Agrawal, Ramasuri Narayanam, and Ponnurangam Kumaraguru 26<sup>th</sup> European Conference on Artificial Intelligence, Krakow, Poland

[ECAI '23]

#### [2] Erasing Labor with Labor: Dark Patterns and Lockstep Behaviors on the Google Play Store [PDF]

Ashwin Singh, <u>Arvindh Arun</u>, Pulak Malhotra, Pooja Desur, Ayushi Jain, Duen Horng Chau, and Ponnurangam Kumaraguru

LBR Track at 33<sup>rd</sup> ACM Conference on Hypertext and Social Media, Barcelona, Spain

**Media** Work covered by Montreal AI Ethics Institute

[LBR @ HT '22]

#### [1] Ensembling Pre-Trained Language Models with Feature Engineering [PDF | code]

T.H. Arjun, <u>Arvindh Arun</u>, and Ponnurangam Kumaraguru

GermEval 2021 Shared Task on the Identification of Toxic, Engaging, and Fact-Claiming Comments

[GermEval '21]

## Honours, Awards and Test Scores

**Google Research Week, 2024** [♥] Accepted to attend a funded 3-day ML research event, hosted by Google Research India.

TOEFL - 115/120

Microsoft Research Travel Grant, 2023 [❖] Awarded \$2500 for attending ECAI'23 held in Krakow, Poland.

**Stellantis NV Hackathon, 2022** Finished as a runner-up in both rounds, winning a cash prize worth 125,000 INR.

Facebook Hackercup, 2022 Reached Round 2, finished Top 10% globally.

GermEval, 2020 Ranked 6<sup>th</sup> globally on cumulative task rank.

PicoCTF by CMU, 2021 Finished 102<sup>nd</sup>, Top 2% globally.

Google Hashcode, 2020 Finished 457<sup>th</sup>.

**HowzHack (DreamVu), 2019** Finished 2<sup>nd</sup> for the problem statement exploring the applications of computer vision for Football's Video Assistant Referees (VAR).

UGEE, 2019 20<sup>th</sup> rank in India.

**JEE, 2019** Top 1.9% in India.

CBSE Class 12, 2019 Top 1.5% in India.

**NextGenius Scholarship, 2019** Finalist (withdrew) selected for fully funded Undergraduate programme at University Of The South, Tennessee, USA.

## Teaching

#### Computational Social Science (CS4.301) Teaching Assistant

Jan '23 - May '23

- > Course covers social computing concepts and social media analysis.
- > Responsibilities included curating assignments, conducting weekly tutorials, and grading quizzes and assignment submissions.

### Data & Applications (CS9.435) Teaching Assistant

Aug '22 - Dec '22

- > Course covers the basics of database systems and introduces SQL.
- > Responsibilities included curating assignments, conducting weekly tutorials, and grading quizzes and assignment submissions.

# Selected Research Projects

# Ensemble of Task-Specific Language Models for Brain Encoding [PDF $\mid$ $\bigcirc$ ]

Jan '23 - May '23

Cognitive Science and AI (CS9.432)

We improve the performance of brain encoders by creating an ensemble model out of 10 popular Language Models (2 syntactic and 8 semantic). Going by the hypothesis that different LMs capture different forms of semantics better, we beat the current baselines by 10% on average across all ROIs through our ensembling methods.

#### Privacy Policy QnA bot [7]

Aug '22 - Dec '22

Online Privacy (CS4.407)

We fine-tuned the Jurassic-1 language model on a new dataset consisting of top Indian companies' Privacy Policies for QA and Summarization tasks. Also deployed a Telegram bot for easy access by connecting it with our hosted model.

### Wikipedia Open QnA [PDF | 🗘]

Aug '21 - Dec '21

Advanced NLP (CS7.501)

We implemented the DrQA Retriever and Reader, and extracted features required to run the RankQA model. We also indexed a large Wikipedia data dump to train on and tested it on the popular SQuAD dataset.