# Arvindh Arun

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### Education

# International Institute of Information Technology, Hyderabad

Hyderabad 2019 - Current

B.Tech + MS by Research in Computer Science and Engineering

- Cumulative GPA - 9.07/10

- 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%)
- Served as a Teaching Assistant for Data & Applications, and Computational Social Science
- Represented the College Football Team, 5x medals in Track & Field, 3x medals in Inter-house football

## **Experience**

## Applied AI/ML Intern - JPMorgan Chase

Bangalore

Corporate Investment Banking Division

May 2023 - July 2023

- 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.

# Research Intern - The Chinese University of Hong Kong

Hong Kong

Mentor: Prof. Hong Cheng

June 2022 - August 2022

- Worked on the domain of Clustering/Community detection in Dynamic social networks and studying their properties.
- Focused on minimizing the time complexity and the space complexity of the existing real-time solutions.
- Explored various state-of-the-art solutions and building a visualization tool to study their efficacy.

## Undergraduate Researcher - Precog Research lab

Hyderabad

Mentor: Prof. Ponnurangam Kumaraguru "PK"

May 2021 - Current

- 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 GNNs.
- Indiana University, Bloomington Collaboration with Prof. Jisun An on analyzing the changes to hate speech after the liberalization of social media platforms.

## Cross Platform Development Intern - Nemocare

Bangalore

Flutter and React Native

January 2021 - May 2021

- 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.
- Worked on integrating the app with their hardware solution via Bluetooth for real-time data streaming.
- Integrated the app with their pre-existing AWS backend ecosystem and made use of their products like Lambda and EC2.
- Performance benchmark conducted between the two versions we built using different frameworks.

#### **Publications**

• CAFIN: Centrality Aware Fairness inducing IN-processing for Unsupervised Representation Learning on Graphs (Oral)

Arvindh Arun, Aakash Aanegola, Amul Agrawal, Ramasuri Narayanam, and Ponnurangam Kumaraguru. 2023. In Proceedings of the 26th European Conference on Artificial Intelligence (ECAI '23), Krakow, Poland. Frontiers in Artificial Intelligence and Applications. IOS Press. doi: 10.3233/faia230259

• Erasing Labor with Labor: Dark Patterns and Lockstep Behaviors on the Google Play Store
Ashwin Singh, Arvindh Arun, Pulak Malhotra, Pooja Desur, Ayushi Jain, Duen Horng Chau, and Ponnurangam
Kumaraguru. 2022.

In Proceedings of the 33rd ACM Conference on Hypertext and Social Media (HT '22), Barcelona, Spain. Association for Computing Machinery, New York, NY, USA, 186–191. Work covered by Montreal AI Ethics Institute.

• Ensembling Pre-Trained Language Models with Feature Engineering

T. H. Arjun, **Arvindh A.**, and Kumaraguru Ponnurangam. 2021.

In Proceedings of the GermEval 2021 Shared Task on the Identification of Toxic, Engaging, and Fact-Claiming Comments, pages 39–46, Duesseldorf, Germany. Association for Computational Linguistics.

Ranked 6th worldwide on all the three subtasks combined.  $\Box$ 

#### Awards and Honours

TOEFL – 115/120 (30 R, 30L, 27 S, 28 W)
Microsoft Research Travel Grant for ECAI worth \$2500
Stellantis NV Hackathon – First Runner-Up, cash prize worth 125,000 INR
Facebook Hackercup – Round 2, Top 10% Globally
GermEval – Ranked 6 <sup>th</sup> Globally on cumulative task rank
PicoCTF by CMU – 102 <sup>nd</sup> place, Top 2% Globally
Google Hashcode – Ranked 457 <sup>th</sup> in India
$Howzhack (DreamVu) - 2^{nd} place \dots 2019$
$UGEE-20^{th\ rank\ in\ India}, < Top\  0.1\%\ in\ India}  \dots $
JEE – Top 1.9% in India
CBSE Class 12 – 94.8%, Top 1.5% in India
NextGenius Scholarship (University Of The South, Tennessee) – Finalist (withdrew) 2018

#### **Projects**

• Ensemble of Task-Specific Language Models for Brain Encoding [Arxiv]

We improve the performance of brain encoders by creating an ensemble model out of 10 popular Language Models (2 syntactic and 8 semantic). We beat the current baselines by 10% on average across all ROIs through our ensembling methods.  $\square$ 

• Privacy Policy QnA bot

Fine-Tuned 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.

• Spccesh Shell

A shell written in C from scratch having various features like process monitoring, I/O redirection, pipelining and signal handling.