

# Arvinth Arun

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## Education

<b>Current</b> <b>Aug 2024</b>	<b>ELLIS PhD (University of Stuttgart &amp; University of Edinburgh)</b> PhD in Artificial Intelligence ‣ Advised by <a href="#">Prof. Steffen Staab</a> and <a href="#">Prof. Antonio Vergari</a> ‣ Working on Knowledge Graphs Embeddings, Transformers, and Probabilistic Models	<b>Stuttgart, Germany</b>
<b>May 2024</b> <b>Aug 2019</b>	<b>International Institute of Information Technology (IIIT H)</b> 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	<b>Hyderabad, India</b>

## Experience

<b>Aug 2024</b> <b>Jan 2024</b>	<b>Google DeepMind (formerly Google Research)   InfoNet</b> <i>Student Research Collaborator</i> ‣ Worked on leveraging topological information from user interactions to gather insight into the quality of user-generated content ‣ Extended Vietoris Rips Complex and Persistent Images to post profiling on social networks ‣ Introduced a new benchmark to evaluate controversy detection models mimicking the real-world data distribution	<b>Remote</b>
<b>Jul 2023</b> <b>May 2023</b>	<b>JPMorgan Chase   Corporate Investment Banking</b> <i>Applied AI/ML Intern</i> ‣ 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.	<b>Bangalore, India</b>
<b>Aug 2022</b> <b>Jun 2022</b>	<b>The Chinese University of Hong Kong   Department of Systems Engineering</b> <i>Research Intern   Advisor: <a href="#">Prof. Hong Cheng</a></i> ‣ 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 built a visualization tool to study their efficacy.	<b>Hong Kong</b>
<b>May 2024</b> <b>May 2021</b>	<b>Precog Research Group</b> [ <a href="#">🌐</a> ] <i>Undergraduate Researcher   Advisor: <a href="#">Prof. Ponnurangam Kumaraguru "PK"</a></i> ‣ Analyzing social networks and other large networks primarily using their network information. ‣ <b>Georgia Institute of Technology, Atlanta</b> Collaboration with <a href="#">Prof. Polo Chau</a> on analyzing the Quantitative and Qualitative impact of fraudulent behavior on social networks and their identification. ‣ <b>Adobe Research, Bangalore</b> Collaboration with <a href="#">Dr. Ramasuri Narayanam</a> on exploring the landscape of group fairness in unsupervised contrastive learning based GNNs. ‣ <b>Indiana University, Bloomington</b> Collaboration with <a href="#">Prof. Jisun An</a> on analyzing the changes to the hate speech dynamics after the liberalization of social media platforms.	<b>Hyderabad, India</b>
<b>May 2021</b> <b>Jan 2021</b>	<b>NemoCare</b> <i>Cross Platform Development Intern</i> ‣ Built the first prototype of the Android and iOS app for this Shark Tank funded, Google accelerated, Asia Hardware Battle 2019-winning startup led by a Forbes 30 under 30 recipient. ‣ Integrated the app with their pre-existing AWS backend ecosystem and their hardware by leveraging Lambda and EC2.	<b>Bangalore, India</b>

## Publications

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- [6] **A Cognac shot to forget bad memories: Corrective Unlearning in GNNs** [PDF]  
Varshita Kolipaka, Akshit Sinha, Debangana Mishra, Sumit Kumar, Arvindh Arun\*, Shashwat Goel\*, and Ponnuram Kumaraguru (\* = Equally Advising)  
*Under Review at ICLR '25* [Under Review]
- [5] **Sanity Checks for Evaluating Graph Unlearning** [PDF]  
Varshita Kolipaka, Akshit Sinha, Debangana Mishra, Sumit Kumar, Arvindh Arun, Shashwat Goel, and Ponnuram Kumaraguru  
*3<sup>rd</sup> Conference on Lifelong Learning Agents Workshop Track (CoLLAS)* [CoLLAS-W '24]
- [4] **X-posing Free Speech: Examining the Impact of Moderation Relaxation on Online Social Networks** [PDF]  
Arvindh Arun\*, Saurav Chhatani\*, Jisun An, and Ponnuram Kumaraguru (\* = Equal Contribution)  
*8<sup>th</sup> Workshop on Online Abuse and Harms (WOAH) at NAACL* [WOAH @ NAACL '24]
- [3] **Oral CAFIN: Centrality Aware Fairness inducing IN-processing for Unsupervised Representation Learning on Graphs** [PDF | code]  
Arvindh Arun, Aakash Aanegola, Amul Agrawal, Ramasuri Narayanam, and Ponnuram Kumaraguru  
*26<sup>th</sup> European Conference on Artificial Intelligence (ECAI)* [ECAI '23]
- [2] **Erasing Labor with Labor: Dark Patterns and Lockstep Behaviors on the Google Play Store** [PDF]  
Ashwin Singh, Arvindh Arun, Pulak Malhotra, Pooja Desur, Ayushi Jain, Duen Horng Chau, and Ponnuram Kumaraguru  
*LBR Track at 33<sup>rd</sup> ACM Conference on Hypertext and Social Media (ACM HT)*  
**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, Arvindh Arun, and Ponnuram Kumaraguru  
*GermEval 2021 Shared Task on the Identification of Toxic, Engaging, and Fact-Claiming Comments* [GermEval '21]

## Honours, Awards and Test Scores

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

**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, 2021** 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.

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

## Teaching

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**Artificial Intelligence: Deep Learning Lab (UoS)** *Course Co-instructor* Oct '24 - Feb '25  
➢ Introductory lab course for Deep Learning with a special focus on Knowledge Graphs, Diffusion models and LLMs.  
➢ Covered lectures on Graph Learning and Good practices in Deep Learning.

**Computational Social Science (IIITH - 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 (IIITH - 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

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#### Ensemble of Task-Specific Language Models for Brain Encoding [\[PDF\]](#) [\[🔗\]](#)

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 [\[🔗\]](#)

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.