

Arvinth Arun

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Education

Current Aug 2024	ELLIS PhD (University of Stuttgart & University of Edinburgh) PhD in Artificial Intelligence ‣ Advised by Prof. Steffen Staab and Prof. Antonio Vergari ‣ Working on Foundation Models for Knowledge Graphs, Graph based Retrieval Augmented Generation for LLMs, LLMs for Graph tasks	Stuttgart, Germany
May 2024 Aug 2019	International Institute of Information Technology (IIIT H) 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	Hyderabad, India

Experience

Aug 2024 Jan 2024	Google DeepMind Information Networks (InfoNet) Team <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	Remote
Jul 2023 May 2023	JPMorgan Chase Corporate Investment Banking <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.	Bangalore, India
Aug 2022 Jun 2022	The Chinese University of Hong Kong Department of Systems Engineering <i>Research Intern / Advisor: Prof. Hong Cheng</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.	Hong Kong
May 2024 May 2021	Precog Research Group [🌐] <i>Undergraduate Researcher / Advisor: Prof. Ponnurangam Kumaraguru "PK"</i> ‣ 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.	Hyderabad, India
May 2021 Jan 2021	NemoCare <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.	Bangalore, India

Publications

- [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
3rd 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)
8th 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
26th 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 33rd 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

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 6th globally on cumulative task rank.

PicoCTF by CMU, 2021 Finished 102nd, Top 2% globally.

Google Hashcode, 2020 Finished 457th.

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

UGEE, 2019 20th rank in India.

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

Teaching

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

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

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.