

Harsha Kokel

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Education

University of Texas at Dallas [Fall '17 - present]
M.S. and Ph.D., Computer Science (GPA: 3.9), Advisor: **Prof. Sriraam Natarajan**
Dhirubhai Ambani Institute of ICT (DA-IICT), Gandhinagar, India [May '13]
B. Tech., Information and Communication Technology (GPA: 3.4), Advisor: **Prof. Prasenjit Majumder**
Thesis: Language identification for short text in transliterated space

Research Interest

Statistical Relational AI, Reinforcement Learning, Planning, Knowledge-based/Human-in-the-loop systems, Probabilistic graphical models, Neurosymbolic models, Learning hierarchies and abstractions.

Technical skills

Python, PyTorch, Java, C, Shell, MATLAB, R, Prolog, PDDL, Linux/Unix, Git, SQL.

Selected Projects

Neurosymbolic RL: Working on a hybrid system that can use high-level task schema descriptions of domain and neural function approximators for continuous lower-level actions.
Communicating with Computers (CwC): Integrated an ILP framework with HTN Planner to learn shapes from elementary ideas by leveraging human-in-the-loop for Blocks World in Minecraft simulator 📺.
Knowledge-intensive Gradient Boosting: Accelerated learning of gradient boosted decision trees in case of sparse and noisy data by exploiting monotonic constraints from domain knowledge 🧠.
JA-WALK-ER: Developed an interface that allows users with basic understanding of database to provide search bias for Inductive Logic Programming 🧠.

Publications

- **Kokel, H.**, Odom, P., Yang, S., Natarajan, S., *Unified Framework for Knowledge Intensive Gradient Boosting: Leveraging Human Experts for Noisy Sparse Domains*, In **AAAI 2020**.
- Sankepally, R., **Kokel, H.**, Agarwal, K., Majumder, P., *Morpheme Extraction Task at FIRE 2012-2013*, In Post-Proceedings of **FIRE 2012 and 2013**, ACM

Experience

Research Assistant, *Starling Lab, UT Dallas, TX* [Spring '19 - present]
Working on DARPA's Communicating with Computers grant and furthering BoostSRL, a relational functional gradient boosting framework.

Teaching Assistant, *UT Dallas, TX* [Fall '18]
CS6343 and CS4365, graduate and undergraduate level class of Artificial Intelligence.

Research Assistant, *DA-IICT, Gandhinagar, India* [May '12 - May '13]
Worked on Sandhan, a cross lingual search engine for 8 Indian languages.

ML Intern, *Turvo Inc., CA* [Summer '18]
Modeled cost estimator that leverages knowledge of the domain experts. [**Kokel et al.** AAI 2020].

Senior Software Engineer, *Amadeus Software Labs, India* [Aug '16 - Jun '17]
Enhanced low fare search for Air Canada.

Associate Technology, *Publicis Sapient Consulting, Bangalore, India* [Jul '13 - Jul '16]
Provided content management solutions for digital transformation of business.

Academic Service

- Assistant Electronic Publishing Editors for JAIR 2020 - present.
- Volunteered for ICDE 2020 as Session Host.
- Reviewed papers for CODS-COMAD, 2020 and SDM, 2020.
- Co-organized meeting of Forum for Information Retrieval Evaluation (FIRE), 2018 and 2013.