

EDUCATION

- **Indian Institute of Technology, Madras** Chennai, India
Master of Science by Research (Computer Science and Engineering); GPA: 7.81/10 *July. 2018 – May. 2021*
Advisors: Prof. Balaraman Ravindran, IIT Madras & Prof. Sriraam Natarajan, UT Dallas
Thesis title: Relational Boosted Bandits in the real-world user interactions (accepted in AAAI'21).
Coursework: Reinforcement Learning, Machine Learning, Deep Learning, Linear Algebra & Random Processes, Data structures & Algorithm
- **Ahmedabad University** Ahmedabad, India
Bachelor of Technology in Information and Communication Technology; GPA: 3.41/4.0 *Aug. 2014 – June. 2018*
Advisors: Prof. Ratnik Gandhi & Prof. Sanjay Chaudhary

INTERNSHIPS & ASSISTANTSHIPS

- **Department of Computer Science and Engineering, IIT Madras** Chennai, India
Teaching Assistant *Aug 2018 - July 2020*
 - **Courses:** Reinforcement Learning, Convex Optimization, Artificial Intelligence, Intro. to Programming
 - **Responsibility:** Creating and evaluating tutorials, programming assignments, taking doubt sessions and exams for a class of about 80 undergraduates and postgraduates.
- **HireValley Infosolutions (ezDI)** Ahmedabad, India
R&D ML Intern , Recommendation letter from founder *May 2017 - April 2018*
 - **Multi-tenant SaaS Platform:** Part of a team of four which responsible for building a major part of a company. Built recommendation engine to suggest jobs for candidates and candidate recommender system for recruiters with both recommendation tasks running on the same source code.
 - **Micro Service Architecture:** Built micro-services for each feature scoring algorithms maintained. The MSA is implemented using Amazon Web Services(AWS).
 - **Hiring Trend Analysis:** Performed cutting edge research on modeling the early stages of recruitment. An average HR person gets less than 6 seconds to skim through a candidate resume. Built a system to model an average HR using multinomial regression based on their past recruits of a certain company for a particular profession.

PUBLICATIONS

- **Kakadiya, A.**, Natarajan S., Ravindran, B.. Relational Boosted Bandits. To be appear in AAAI 2021.
- **Kakadiya, A.**, Natarajan S., Ravindran, B.. Relational Contextual Bandits. In workshop REVEAL 2020, ACM recommendations systems.
- **Kakadiya, A.**, Derasari, R., Mehta, M. , Patel, S., Gandhi, R., Chaudhary, S., and Goswami, R., (2019). A Service-Oriented Architecture for Human Capital Management System. In 2019 Annual IEEE Systems Conference (SysCon) Proceedings . IEEE
- Patel, S., **Kakadiya, A.**, Mehta, M., Derasari, R., Patel, R., and Gandhi, R. (2018). “Correlated Data Generation Using GAN and its Application for Skill Recommendation” in 2nd Workshop on DSHCM collocated with ECML-PKDD'18

MASTER'S THESIS

Title: Relational Boosted Bandits in real-world user interactions

- Proposed a first contextual bandit algorithm, Relational Boosted Bandits(Rb2) for online learning in relational domain
- Incorporated gradient boosted relational trees as a base learner and softmax exploration for the exploration - exploitation trade-off
- New parametric-free sampling algorithm that is suitable for online relational learning
- Empirically demonstrated the effectiveness and interpretability of RB2 with other benchmark algorithms on the cumulative regret evaluation metric on tasks such as link prediction, relational classification, and recommendation

SELECTED PROJECTS

- **Model Based Reinforcement Learning with Graph Interaction Networks(Feb 2019 - September 2019):**
Model-Based Reinforcement Learning is centered at making agents build a sufficiently good model of the environment and then plan on the model. Proposed novel Model-based RL algorithm that incorporate the richer information of interactions within different parts of the agent and environment using graphs interaction networks. Project report in arxiv format.
- **News Article Recommendation Algorithm (April 2019):**
Proposed a novel recommendation algorithm based on contextual bandit and efficient heuristics. The project was taken as self-study on recommendation algorithms. Used LinUCB as oracle learner and applied ML techniques for building filters to classify relevant users and contents. The CTR improvement of 9% over standard baseline.
- **Machine Learning Course Assignments (July 2018 - November 2018):**
Static Pattern Classification using KNN, Logistic regression, Bayes Classifier, Multi Layers Neural Networks, Linear/Kernel SVM's. Reconstruction of image based on eigen-analysis using PCA.
- **Cloud Based Code Manager (September 2017 - December 2017):**
Built cloud based web application that provides developer an interface which helps in code compilation, execution, storage, analysis and also provides code optimisation related suggestion if required in code. This project was undertaken as cloud computing course project

PROGRAMMING SKILLS

- **Languages:** Python, C, C++, SQL, Java, HTML, MATLAB
- **Tools/Technologies:** PyTorch, Keras, AWS, Git, Latex, Openai baselines, Flask, Pandas, Numpy, Scipy, scikit-learn

PROFESSIONAL ACTIVITIES

- Lab Instructor, Deep Reinforcement Learning Crash Course Workshop for DRDO scientists at IITM Research Park, December'19
- Lab Instructor and Organizer, Learning in Data Science: Models, Algorithms & Tools Summer School; at Ahmedabad University, July'17

ACHIEVEMENTS & HONOURS

- Selected for Google AI Research Summer School, June'20
- Titled Distinguished Alumni by Dean of SEAS, Ahmedabad University, 2020
- Secured All India Rank 1349 among 107893 candidates in GATE (computer science), 2018
- Secure 25th rank in all over India in 24 hour algorithmic programming competition held by IEEE, October'16
- Selected for Indian Oil Corporation Student Scholarship for Academic excellence. 2014