Ashutosh Kakadiya
https://ashutoshaay26.github.io/
Email : ashutoshkakadiya11@gmail.com
Mobile : +91-9824503005

Research Interests

• Contextual Bandits • Relational Reinforcement Learning •Recommendation Systems • Applied Machine Learning

Education

- **Indian Institute of Technology, Madras** — Chennai, India
  Master of Science by Research (Computer Science and Engineering); GPA: 7.8/10 — *July. 2018 – Present*
  Guide: Prof. Balaraman Ravindran, IIT Madras; Co-Guide: Prof. Sriraam Natarajan, UT Dallas

  Coursework - Reinforcement Learning, Machine Learning, Deep Learning, Linear Algebra & Random Processes, Advance Algorithms

- **Ahmedabad University** — Ahmedabad, India
  Bachelor of Technology in Information and Communication Technology; GPA: 3.41/4.0 — *Aug. 2014 – June. 2018*

Internships & Assistantships

- **Department of Computer Science and Engineering, IIT Madras** — Chennai, India
  Teaching Assistant — *Aug 2018 - Present*
  - **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(multi-tenancy).
  - **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., 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

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 collaborative filtering algorithms.
- **Machine Learning Course Assignments (July 2018 - November 2018)**:
  Static Pattern Classification using KNN, Logistic regression, Bayes Classifier, Muti 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

- **BRTS guidance app (January 2016 - April 2016)**:
  An algorithm project that aims to build an app to show convenient transport paths with approx. arrival time for user from current bus station to destination station of BRTS network system of Ahmedabad. Implemented different graph algorithms for path findings and distance calculations.

Programming Skills

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

Professional Activities

- Lab Instructor, 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