Aashay Pinkesh Mehta

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Education

Birla Institute of Technology and Science (BITS), Pilani — **Pilani, India**
Bachelor of Engineering in Computer Science — *Aug. 2016 - Jul. 2020*
Graduated with **Distinction** with a cumulative GPA of **9.55/10**. Among the top **3%** students across all departments.
GRE: 340/340 (AWA 4/6) TOEFL: 115/120

Research Experience

Discovering and Teaching Reliable Strategies from Inaccurate Descriptions [Code] — **Tübingen, Germany**
Supervisor: Dr. Falk Lieder, Rationality Enhancement Group, MPI for Intelligent Systems — *Jan. 2020 - Aug. 2020*
- Developed reinforcement learning (RL) methods that are robust to people's erroneous descriptions of the environment.
- These methods utilized the posterior distribution over the true environments (constructed using likelihood models of people's biases) to learn robust policies.
- Teaching those discovered strategies to people significantly improved their performance in multiple scenarios.

Performance Engineering for Cloud Systems — **Edmonton, Canada**
Guide: Dr. Hamzeh Khazaei (Now at York University), University of Alberta — *May 2019 - Jul. 2019*
- Estimated the performance of a workload on different VMs given a representative sample.
- Containerized workloads like PageRank, SQL queries, and K-Means clustering for execution under different resource limits.
- Collected system statistics during their execution and applied Random Forest on extracted features to predict performance.

Controversy Detection on Twitter — **Pilani, India**
Guide: Prof. Poonam Goyal, BITS Pilani — *Jan. 2019 - Apr. 2019*
- Worked on detecting controversial events on Twitter from a stream of incoming tweets.
- Grouped tweets based on Jaccard coefficient, before extracting and utilizing lexical categories and Twitter-specific features.
- Used keywords from the clusters to externally verify the controversy by checking for their coexistence in articles on the web.

Recognize Road Signs Text — **Pilani, India**
Guide: Dr. Kamlesh Tiwari, BITS Pilani — *Aug. 2018 - Dec. 2018*
- Collaborated on recognizing text from road signs in natural scenes to pvercome problems such as orientation and shadows.
- For the detection part, used a FCN followed by Non-Maximum Suppression. The feature extractor stem was a ResNet.
- The recognition net consisted of a ResNet-like architecture and was applied on each region located by the detector independently.

Publications

- Kemtur, A., Jain, Y. R., Mehta, A., Callaway, F., Consul, S., Stojcheski, J., & Lieder, F. (2020). Leveraging Machine Learning to Automatically Derive Robust Planning Strategies from Biased Models of the Environment. In *Proceedings of the 42nd Annual Conference of the Cognitive Science Society (CogSci 2020)*.

Industrial Experience

Edgeverve Systems Ltd. — **WFH**
Member of Technical Staff, Finacle division — *Nov. 2020 - Present*
- Developing payments-related microservices from scratch to overhaul the existing monolithic architecture.
- Concurrently creating domain-specific scaffolding tools for faster development.
- Previously introduced distributed tracing in a banking application to discover request execution bottlenecks.

Happiest Minds Technologies — **Bengaluru, India**
Intern, Analytics and Artificial Intelligence CoE — *May 2018 - Jul. 2018*
- Designed and implemented a system to generate match highlights from soccer videos.
- Divided input video into constituent shots using Chi-square distance between frames.
- Extracted audio features using pyAudioAnalysis. Extracted visual features using Tensorflow object detection models.
- Used scikit-learn to train an SVM model on extracted features to attain a f-score of 72% on test data.

Key Course Projects

Compiler in C
CS F363: Compiler Construction *Jan. 2019 - Apr. 2019*
- Implemented the following modules: lexer, parser, AST generator, type checker & semantic analyzer and NASM code generator.

Iterative Policy Training via No-Regret Online Learning
BITS F312: Neural Networks and Fuzzy Logic *Apr. 2019*
- Implemented the DAgger algorithm to learn from expert policies for each of the MuJoCo tasks in OpenAI Gym.

Recommender System for E-commerce
CS F469: Information Retrieval *Sep. 2018 - Nov. 2018*
- Employed topic modelling and supervised link prediction to learn the semantic relationships between products from reviews, ratings, brand and price. Generated a digraph of product substitutes and complements.

Awards & Achievements

- **BITS Institute Scholarship** Awarded the Institute Scholarship for all semesters of study, given to the top 3% students across all the departments of the university.
- **Mitacs GRI Scholar** Chosen for a fully-funded 12-week research internship at University of Alberta.
- **Joint Entrance Examination Main** All India Rank of 645 among 1.2 million candidates in 2016.
- **Duke TIP India** One of the 90 students selected from all over India in 2011 for Duke University's 3 week summer program. Opted for the course: Java for Video Games.

Technical Skills

Programming Languages Python, C, Java, R, TypeScript, SQL, Scala, Prolog
Software & Frameworks PyTorch, Tensorflow, OpenAI Gym, OpenCV, NLTK, Spring, React, Docker

Mentorship Experience

Teaching Assistant
BITS F312: Neural Networks and Fuzzy Logic, Instructor: Prof. Surekha Bhanot *Aug. 2019 - Dec. 2019*
Designed and evaluated assignments. Conducted a recap lecture as well as demos to introduce students to NumPy, Pandas, etc.

Teaching Assistant
CS F320: Foundations of Data Science, Instructor: Prof. Navneet Goyal *Aug. 2019 - Dec. 2019*
Conducted weekly lab sessions in R programming covering topics like PCA and linear regression.

Relevant Coursework

Computer Science
Neural Networks and Fuzzy Logic, Pattern Recognition, Information Retrieval, Foundations of Data Science, Algorithms, Data Structures, Operating Systems, Computer Networks, Theory of Computation, Computer Architecture
Mathematics
Linear Algebra, Probability and Statistics, Differential Equations, Multivariable Calculus, Discrete Mathematics
Massively Open Online Courses
Learning from Data (Caltech), Introduction to Reinforcement Learning (DeepMind), Neural Networks and Deep Learning (Coursera), Introduction to Algorithms (MIT OCW)

Positions of Responsibility

- **President - Computer Science Association** *Aug. 2019 - Dec. 2019*
  Conducted Computer Science related events such as hackathons and prediction challenges.
- **Captain - BITS Chess Team** *Dec. 2017 - Dec. 2018*
  Participated in 12 intercollegiate team events over 4 years, winning 1 gold, 6 silver (2 as captain) and 1 bronze medals.
- **Core Member - Student Faculty Council, CS Dept.** *Aug. 2017 - May 2018, Aug. 2019 - Dec. 2019*
  Member of the team that tackles issues faced by students, as well as provides the learner's perspective on academics.