Pratyush Kar

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📔 Relevant Courses

Neural Networks, Virtualization, Natural Language Processing, Distributed Computing

🎓 Education

The University of Texas at Austin, USA   2017 – Present
M.S. in Computer Science **GPA: 4.0/4.0**

Birla Institute of Technology & Science, Pilani, India   2013 – 2017
B.E. (Hons.) in Computer Science **CGPA: 9.4/10**

💼 Work Experience

Qualcomm India Pvt. Ltd., Hyderabad, India   May, 2016 – July, 2016
Software Engineering Intern

- Developed a parser and command sequencer (in C++ and Python) for running commands present in the log files to simulate a voice call on the Hexagon DSP simulator
- The system was designed to be dynamic and could handle changes to the ADSP command library seamlessly

TEG Analytics, Bangalore, India   Jan, 2017 – May, 2017
Software Developer Intern

- Migrated the Nike team's MS SQL Server setup to a Spark and HDFS based platform
- Implemented the business logics using Spark SQL and columnar storage format (Parquet), resulting in ~10x faster query runtimes and ~70% storage savings

⑂ Projects

Dynamic Bidding Policy for AWS Spot Instances   Nov, 2017 – Dec, 2017
Advisor: Prof. Vijay Chidambaram

- Formulated a bidding policy using Savitzky-Golay filter for spot instances to replace on-demand instances in AutoScaling Groups on AWS
- Helped in aggressively optimizing the cost incurred with spot savings by 63%

Workload Characterisation in Cloud Data Centers   Aug, 2016 – Dec, 2016
Advisor: Prof. Sundar B.

- Developed approaches based on user behavior modeling for the prediction of future workloads on the Google cluster dataset
- Implemented models based on Support Vector Regression for prediction of future CPU and memory usage

Autonomous Humanoid Robot: AcYut   Oct, 2013 – May, 2016
Advisor: Prof. B.K. Rout

- Designed and built the 6th iteration of India's first completely autonomous soccer-playing humanoid robot
- Implemented algorithms based on Monte Carlo Localization for efficient localization using field line detection

Content Based Image Retrieval for Shekhawati Paintings   Jan, 2016 – May, 2016
Advisor: Prof. Sundar B.

- Implemented graph-based image segmentation algorithms for identifying important objects in the paintings
- Designed image classification algorithms using HOG features and SVM for automatic annotation of the input images in OpenCV

⚙ Skills

- Languages: C++, Python, Go, Java, LaTeX
- Frameworks: Git, TensorFlow, PyTorch, Docker, Spark, Hadoop, AWS