

# PRATYUSH KAR

🏠 pratyushkar.com · ✉️ pkar@cs.utexas.edu · 📞 (+91) 9868826888 · 🌐 pratyushkar

## 🎓 EDUCATION

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

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

## 💼 WORK EXPERIENCE

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**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.
- Converted the existing ETL pipeline to the new platform for generating client reports using Tableau dashboards.

**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.

## 🎓 ACADEMIC PROJECTS

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**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 6<sup>th</sup> iteration of India's first completely autonomous soccer-playing humanoid robot.
- Completed DeitY, Govt. of India, four year funded research project successfully.
- Implemented algorithms based on Monte Carlo Localization for efficient localization using field line detection.
- Participated and stood 6<sup>th</sup> in RoboCup 2015 (only team from India) held in Hefei, China.

**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.

**Multi-Robot Exploration Using TurtleBots** Jan, 2015 – Dec, 2015  
*Advisor: Prof. Sudeept Mohan*

- Designed planning and task allocation algorithms for multiple robots based on Constrained Delaunay Triangulation and successfully tested them on the TurtleBot platform in ROS.

## ⚙️ SKILLS

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- Languages: C, C++, Python, Java, Scala, SQL,  $\text{\LaTeX}$
- Softwares: MATLAB, Tableau, Oracle SQL Developer, IBM SPSS Modeler, Git
- Libraries/Frameworks: Apache Spark, Hadoop, OpenCV, pandas, LibSVM, scikit-learn, QT