http://tejaskhot.github.io/

Tejas S. Khot

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Education

Mumbai, India

- B.E. in Computer Engineering, University of Mumbai. **CGPA**: 8.91 / 10 **(Class of 2016)**
- Higher Secondary Certificate (HSC), Maharashtra Board. **Percentage**: 83.33% **(Class of 2012)**
- Secondary School Certificate (HSC), Maharashtra Board. **Percentage**: 94.00% **(Class of 2010)**

Undergraduate thesis **July 2015 - April 2016**

Action Based Cognition: Embodied Cognitive Robotics
Guides: Dr. Nagarjuna G (TIFR), Prof. Brijmohan Daga

Employment

Research Intern **Virginia Tech, USA** **July 2016 - July 2017 (Expected)**

Machine Learning and Perception Lab, Dr. Dhruv Batra

- (Joint) First author, **CVPR '17** Submission-
  Making the V in VQA Matter: Elevating the Role of Image Understanding in Visual Question Answering
- Organizing team, **CVPR '17** Workshop- Visual Question Answering (VQA) Challenge 2017
- Teaching Assistant for *Introduction to Machine Learning* taught by Dr. Stefan Lee
- Improving the evaluation time of results on **EvalAI**, a framework to host AI competitions online

Research Intern **University of Malaya, Malaysia** **June 2015 - July 2015**

Advanced Robotic Lab, Dr. Chu Kiong Loo

- Worked on emotion classification using attention based deep learning models
- Conducted a two day long deep learning and GPU computing workshop

Software Development Intern **Google Summer of Code** **May 2015 - Aug 2015**

The OpenCog Foundation, Dr. Ben Goertzel and Yuhuang Hu

- Implemented the Deep Spatio-Temporal Inference Network (**DeSTIN**) framework using GPUs
- Improved the accuracy of DeSTIN by **21%** using stacked convolutional auto-encoders with variable noise

Department Editor **ACM XRDS** **April 2015 – Present**

- Promoted to the **Hello World** department in July 2016- a column introducing algorithms and software tools
- Previously, wrote for the Pointers column- collection of news relevant to the theme of the magazine issue

Software Development Intern **InvenZone, India** **Dec 2014 - Jan 2015**

- Deployed a model for time series forecasting to determine which scientific research topics are trending
- Built a machine learning model for classifying images of clothing items from e-commerce website's catalog

Software Development Intern **Silver Leaf Capital Services, India** **June 2014 - Aug 2014**

- Developed a model for predicting stock splits with over **94%** accuracy
- Deployed a Stock Portfolio Management Application

Assistant Director **Indian International MUN** **Sept 2012 - Aug 2013**

- Lead the Coordination Council, a team of over 400 students, towards organizing Asia's largest youth conference

Honors and Awards

Sir Ratan Tata Merit Scholarship

Recipient of the Ratan Tata Merit Scholarship by Ratan Tata Trust awarded for excellent academic record in first year of engineering in 2013.

Presentations and Case Studies

- A Gentle Introduction to Machine Learning
- Passing the Turing Test - A comparative survey of all attempts, techniques since 1950
- Wavelet Transforms versus Fourier Analysis for digital signal processing
- Case study on memory management in UNIX based operating systems
- Comparative analysis of various multi-level cache coherence techniques
- Visual Cryptography - Storing secret data in images
- Distributed database cache optimization
- Python Programming for Beginners

Workshops

- Selected to attend **Deep Learning Summer School 2016**, Montreal, Canada
- Selected to attend, with full scholarship, **Machine Learning Summer School 2015**, Kyoto, Japan
- Selected to attend, with full scholarship, **Lectures on Probability and Stochastic Processes 2015**(LPS-X)
- Selected for **Media Lab Design Innovation Workshop 2015**, Welspun Smart Textiles track
- Selected for **MIT Media Lab's Kumbhathon 2015**, Proactive Crowd Management Team

Selected Projects

- **Correlational Neural Network for Knowledge Base Completion** (2016)
  Training on relationships in WordNet and FreeBase, predicting missing knowledge base entries and classifying facts to achieve results comparable to Neural Tensor Networks
- **Hierarchical clustering of images** (2016)
  Performed agglomerative and divisive clustering of images from the Flickr 8K dataset
- **Generating poetry using Recurrent Neural Networks** (2015)
  Using character and word level attention based RNNs to generate unseen poetry
- **BitTorrent Client** (2015)
  Created a heart beat server and tracker server to implement peer file sharing protocol for torrent files
- **XML Database to Relational Database Converter** (2015)
  Built a Java application to parse XML file with XSD and generate SQL queries for Relational Databases
- **Singing Curtains** (2015)
  Built flat fabric speakers made out of embroidered highly conductive thread and neodymium magnets
- **Fabric Moisture Sensor** (2015)
  One of its kind fabric moisture sensor which not only detects but also measures wetness of fabric and wirelessly transmits messages indicating moisture content
- **Online Movie Ticket Booking Service** (2014)
  Features included searching via theatres or locality, OTP authentication and reviews from IMDB

Languages and Technologies

- Python (Theano, TensorFlow, OpenCV, scikit-learn stack), Lua (torch7), R, MATLAB, Octave, bash
- Apache Spark, Robot Operating System(ROS), Gazebo simulator, Redis, Flask, MySQL, AWS EC2, AWS S3, uWSGI, Nginx, HTML, CSS, Javascript

Positions Held

- Founder and Chairperson, Association of Computing Machinery(ACM) Student Chapter (2014-15)
- Event Coordinator, Computer Engineering Students' Association(CESA) (2013-14)
- Event Coordinator, Entrepreneurship Cell(E-Cell) (2013-14)
- College Debate Team Member (2013-15)