Tejas Khot

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Education

- **Carnegie Mellon University, School of Computer Science** — Pittsburgh, PA
  Master of Science in Robotics; GPA: 4.00 — *Aug 2017 – Present*
  - Advised by Dr. Martial Hebert and Dr. Christoph Mertz; member of CMU Navlab
  - Working on 3D Computer Vision (point clouds, scene understanding) using Deep Learning
  - Independent research study with Dr. Ruslan Salakhutdinov on Transfer Deep Reinforcement Learning
- **University of Mumbai** — Mumbai, India
  Bachelor of Engineering in Computer Engineering; GPA: 8.91/10.0 — *Aug 2012 – July 2016*

Experience

- **Virginia Tech** — Blacksburg, VA
  Research Scholar with Dr. Dhruv Batra, Dr. Devi Parikh — *July 2016 - May 2017*
  - Applied deep learning to counter language priors in Visual Question Answering; collected large scale dataset
  - Teaching Assistant, Introduction to Machine Learning taught by Dr. Stefan Lee, Fall 2016
  - Organizing team of the VQA Workshop at CVPR '17; helped setup website, online demos
- **University of Malaya** — Kuala Lumpur, Malaysia
  Research Intern with Dr. Chu Kiong Loo — *June 2015 - July 2015*
  - Developed a system for emotion classification based on deep learning and built a web interface for real-time usage
- **Google Summer of Code**
  Google Contract Developer, The OpenCog Foundation — *May 2015 - Aug 2015*
  - Implemented the Deep Spatio-Temporal Inference Network (DeSTIN) framework using Theano utilizing GPUs
  - Improved the accuracy of DeSTIN by **21%** using stacked convolutional auto-encoders with variable noise
- **InvenZone** — Mumbai, India
  Software Development Intern — *Dec 2014 - Jan 2015*
  - Deployed a model for time series forecasting to determine which scientific research topics are trending
- **Silverleaf Capital Services Ltd.** — Mumbai, India
  Software Development Intern — *June 2014 - Aug 2014*
  - Developed a model predicting stock splits with **94%** accuracy; deployed a Stock Portfolio Management application
- **ACM XRDS**
  Department Editor — *April 2015 - April 2017*
  - Wrote for the Pointers and Hello World introducing algorithms and software tools

Publications

- **Making the V in VQA Matter: Elevating the Role of Image Understanding in Visual Question Answering**
  First author, accepted to CVPR 2017

Projects

- **Active Exploration** : Using deep reinforcement learning for effective navigation strategies in virtual environments
- **Learning Point Correspondences With Wider Viewpoints** : Using CNN features as local feature descriptors and comparing against with SIFT on Pascal Keypoint Dataset based on detection accuracy over planar rotations
- **The Curious Case of Gradient Descent** : Comparing convergence of Stochastic Gradient Descent with Adam; analyzing effects of learning rate scheduling; bad generalization; performance plateauing; local minimas
- **Correlational Neural Network for Knowledge Base Completion** : Training on relationships in WordNet and FreeBase, predicting missing entries and classifying facts to achieve results comparable to Neural Tensor Networks
- **Smart Textiles** : 1) Built flat fabric speakers made out of embroidered highly conductive thread and neodymium magnets, 2) Designed a fabric moisture sensor which can detect and measure wetness with accompanying Android app

Programming Skills

- **Languages**: Python, Javascript, SQL, MATLAB **Technologies**: Pytorch, MySQL, Redis, Flask, Blender