Tejas Khot
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Education

- **Carnegie Mellon University, School of Computer Science** — Pittsburgh, PA
  Master of Science in Robotics; GPA: 4.00/4.33 — *Aug 2017 – May 2019*
  - 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*

Publications

- **Point Completion Network** [3DV 2018 — Oral, Honorable mention for Best Paper Award]
- **Making the V in VQA Matter: Elevating the Role of Image Understanding in Visual Question Answering** [CVPR 2017]

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

Projects

- **3D Primitives Based Spatial Map** : Fitting 3D parameterized volumetric primitives to aerial LIDAR scans of buildings by sim2real transfer deep learning to obtain lightweight geometry representation of maps.
- **Efficient Exploration and Navigation in Unknown Environments with External Spatial Memory** : Using deep reinforcement learning for effective navigation and mapping 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

Programming Skills

- **Languages**: Python, MATLAB **Technologies**: Pytorch, Blender, Amazon Mechanical Turk

Graduate Courses

- 16-720 Introduction To Computer Vision, 16-811 Math Fundamentals for Robotics, 10-703 Deep Reinforcement Learning, 16-822 Geometric Methods for Computer Vision, 16-741 Mechanics of Manipulation