Tejas Khot

https://tejaskhot.github.io Mobile: (412) 519 7812

EDUCATION

Carnegie Mellon University, School of Computer Science

Pittsburgh, PA

Master of Science in Robotics; GPA: 4.00/4.33

Aug 2017 - May 2019 (Expected)

Email: tkhot@andrew.cmu.edu

- o Advised by Dr. Martial Hebert and Dr. Christoph Mertz; member of CMU Navlab
- o Working on 3D Computer Vision (point clouds, scene understanding) using Deep Learning
- o 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, IJCV 2018]

EXPERIENCE

Virginia Tech

Blacksburg, VA

Research Scholar with Dr. Dhruv Batra, Dr. Devi Parikh

July 2016 - May 2017

- o Applied deep learning to counter language priors in Visual Question Answering; collected large scale dataset
- o Teaching Assistant, Introduction to Machine Learning taught by Dr. Stefan Lee, Fall 2016
- o 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

 \circ 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 OpenCoq Foundation

May 2015 - Aug 2015

- o Implemented the Deep Spatio-Temporal Inference Network (DeSTIN) framework using Theano utilizing GPUs
- o 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

o 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

 \circ Developed a model predicting stock splits with 94% accuracy; deployed a Stock Portfolio Management application \mathbf{ACM} \mathbf{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 Turkm, Web Dev

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