

Sanket Lokegaonkar

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EDUCATION

Virginia Tech

2016 - Present

Masters in Computer Science

Relevant Courses: Advanced Machine Learning, Advanced Computer Vision, Numerical Optimization, Virtual Environments

University of Mumbai: Rajiv Gandhi Institute of Technology

2011 - 2015

Bachelors in Computer Engineering

Relevant Courses: Analysis of Algorithms & Design, Artificial Intelligence, Computer Vision, Distributed Systems, Computer Organization & Architecture.

TECHNICAL SKILLS

Programming Languages: Java, Python, C/C++, Javascript, MATLAB, SQL, \LaTeX

Libraries: Tensorflow, Pytorch, Scikit-learn, NLTK, Spring Framework, Android

EXPERIENCE

Research Assistant at Discovery Analytics Center/VTI

Summer 2017

Worked on predicting driver state with dashboard cam video and sensors in collaboration with Virginia Tech Transportation Institute and Discovery Analytics Center.

- Developed C3D and Two-Stream Architecture for video action recognition in Tensorflow and Pytorch
- Developed time-series prediction module detecting dangerous/distracted drivers using car sensor data.

Research Assistant at Vision and Learning Lab

Spring 2017

- Currently working on improving the generalization capabilities of deep-learned representations, in different scenarios like domain adaptation, lifelong learning.
- Developed loop-back module for ensuring forward-backward consistency in object tracking for videos with Deep Siamese Network with MATConvNet.

Research Intern at Indian Institute of Technology Bombay

Fall 2015 - Spring 2016

- Developed framework in Python for building and evolving a domain-specific taxonomy, given an initial set of well-organized data points curated from expert user.
- Developed lokavidya web application supporting informational content aggregation using video as primary media using Java Spring Framework, AngularJS.
- Contributed in development of the state machine architecture design to interface cloud telephony systems using JSP/Servlets.

PUBLICATIONS

Building Complementary Domain Taxonomies using Query Enrichment

IIT Bombay

Simoni S. Shah, Shraddha Bhattad, Sanket Lokegaonkar, Ganesh Ramakrishnan

- In IJCAI: Workshop on Cognitive Knowledge Acquisition and Applications

SELECTED PROJECTS

Unsupervised Pixel-level Domain Adaptation for Semantic Segmentation

Spring 2017

- Developed pixel-level domain adaptation approach for semantic segmentation using CycleGAN. Code available in Pytorch.

QBOne: A Virtual Environment for Improving Quarterback Decisionmaking

Spring 2017

- Developed quarterback training environment in a motion-tracked Virtual Reality for American Football using Unity Game Engine.
- Conducted an user study to answer questions on how prior experience with football affects the movement and decision-making in VE.

Deep Reinforcement Learning in Multi-agent Soccer

Fall 2017

- Developed the initial prototype for learning deep agents on half-field offense task in a multi-agent soccer environment.
- Agents were trained on two environments: 6x9 grid and Robocup 2d Soccer environment.
- The underlying model for the agents is DQN with Opponent Modeling from He, He, et al. "Opponent Modeling in Deep Reinforcement Learning".

Structural optimization for in-memory key-value stores

Fall 2016

- Worked on 2 optimizations in Redis, specifically Sorted Set and String key-value Hash-Map, replacing them with more compact and memory efficient Adaptive Radix Tree and Google's SparseHash.
- Performed evaluations on the modifications and validated the increased memory utilization seen due to the changes.

libConvex

Fall 2016

- Implemented algorithms on Line Search Methods, Trust-Region Methods, Conjugate Gradient, Quasi-Newton, Parameteric Least Squares, Sequential Quadratic Programming for equality constraints in MATLAB.

ADDITIONAL EXPERIENCE

Worked as instructor and TA for CS:3714 Mobile Software Development

Contributed in CS teaching workshops for children in Rural India

Developed web application assisting in transcription of educational videos for Spoken Tutorial Initiative.