Sanket Lokegaonkar

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Education

2016–2018 **Virginia Tech**,
Master of Science in Computer Science , focusing on Computer Vision Research.
Relevant Courses: Advanced Machine Learning, Advanced Computer Vision, Multiprocessor Programming, Data Mining: Large Graphs/Networks.

2011–2015 **University of Mumbai**,
Bachelor of Engineering in Computer Engineering.
Relevant Courses: Analysis of Algorithms & Design, Artificial Intelligence, Computer Vision, Distributed Systems, Computer Organization & Architecture.

Experience

July 2018 –Ongoing **Software Engineer**, *Bloomberg L.P.*
- Developed a real-time distributed rules and workflow engine (supporting complex temporal rules) to monitor and filter out millions of transaction per minute.
- Working on algorithmic trading/post-trading analytic workflows in Bloomberg Terminal

Feb 2017 - May 2018 **Research Assistant**, *Virginia Tech Vision & Learning Lab*,
GUIDE: Prof. Jia-Bin Huang.
- Developed a new continual learning method to alleviate catastrophic forgetting in incremental pixel-wise/dense labeling problems.
- Developed the photogrammetry and iterative 3D reconstruction workflow for Source Form, a tool to generate/print 3D models from subjective textual user input.

May 2017 - Aug 2017 **Research Assistant**, *Discovery Analytics Center/Virginia Tech Transportation Institute*,
GUIDE: Prof. Naren Ramakrishnan.
- Analyzed and developed methods to detect driver fatigue/drowsiness and identify distracted drivers, using dash-cam video and car sensors. Analysis explored different approaches viz statistical time-series modeling, recurrent architectures for sensor data modeling, face-tracking and classification using 3D convolutions.

June 2015 - May 2016 **Research & Development Intern**, *Dept. of Computer Science, Indian Institute of Technology Bombay*,
GUIDE: Prof. Ganesh Ramakrishnan.
- Developed a domain-agnostic framework for building and evolving a domain-specific taxonomy, given an initial set of well-organized data points viz expert curated collection. The framework will build and evolve the taxonomy with high precision and recall, but with minimal assistance from a domain expert.
- Core contributor to development of web application and mobile application (Lokavidya) focusing on content aggregation, collaborative content creation and dissemination of informational multimedia content.

Publications

June 2016 **Continual Learning for Deep Dense Prediction** , *Masters Thesis: Dept of Computer Science, Virginia Tech* ,
GUIDE: Prof. Jia-Bin Huang.
Algorithm to

June 2016 **SourceForm: All-In-One Crowdsourced Object Generator**, *Under review, SIGGRAPH'19* .
Integrated tool to aggregate crowdsourced images, filter based on user search, generate watertight models using photogrammetry and 3D print the generated model.

June 2016 **Identifying Distracted and Drowsy Drivers Using Naturalistic Driving Data**, *IEEE International Conference on Big Data (IEEE BigData '18)* .
Algorithm to generate and evolve a dual-faceted domain taxonomy, with the help of a well organized domain corpus.

June 2016	**Building Complementary Domain Taxonomies using Query Enrichment**, *IJCAI: Workshop on Cognitive Knowledge Acquisition and Applications* .
	Algorithm to generate and evolve a dual-faceted domain taxonomy, with the help of a well organized domain corpus.

Projects

Spring 2017	**Unsupervised Pixel-level Domain Adaptation for Semantic Segmentation**.
	○ Proposed a novel approach of solving domain adaptation for semantic segmentation by using Conditional GANs to transfer styles across domains and reduce domain-distribution mismatch. Code available in Pytorch.
May 2018–Nov 2018	**QBOne: A Virtual Environment for Improving Quarterback Decisionmaking**.
	○ Designed and developed quarterback training environment in a camera motion-tracked Virtual Reality for American Football using Unity Game Engine.
Aug 2018	**Deep Reinforcement Learning in Multi-agent Soccer** .
	○ Developed Deep Q-Network with Opponent Modeling for learning collaborative deep agents in a multi-agent soccer environment.
Aug 2018–Oct 2018	**Recommending games, communities and estimating gameplay time in a gaming social network : a case study of Steam**.
	○ Developed and proposed constrained joint matrix factorization approach for game and user recommendation engine on Steam gaming dataset. Extended the algorithm for MapReduce Framework.
Oct 2018	**Semantic Search on Distributed Databases** .
	○ Designed and developed a modular, fault-tolerant distributed search system supporting load distribution across nodes and dynamic management of nodes in Java. Supports semantic queries by using state-of-the-art NLP parsers from Stanford NLP.
May 2018–Aug 2018	**libConvex**.
	○ MATLAB library implementing multiple optimization algorithms: Line Search Methods, Trust-Region Methods, Conjugate Gradient, Quasi-Newton, Parameteric Least Squares, Sequential Quadratic Programming for equality constraints.

Skills

Languages	C/C++, Python, Java , Javascript, MATLAB , SQL, LaTeX
Frameworks	Tensorflow, Pytorch, Keras, Scikit-learn, Spring Framework, Android, AngularJS, JQuery, Spring MVC, Django, Hadoop, Solr/Lucene , Apache Spark, Redis

Extra Curriculars

- ○ Instructor and TA for CS:3714 Mobile Software Development
- ○ Attended Machine Learning Summer School 2015 focusing on Convex/Non-convex Optimization, IIT Bombay, India.
- ○ Contributed in CS teaching workshops for children in Rural India