Shubhangi Upasani

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OBJECTIVE

A machine learning and computer vision enthusiast with related projects and experience in software development using cloud, looking to break into full-time job opportunities in areas of machine learning/computer vision (graduating in May 2021).

EDUCATION

Georgia Institute of Technology, Atlanta, Georgia, USA **Aug 2019 to May 2021**

Master of Science in Computer Science – Machine Learning Specialization (4.0/4.0 GPA)

Coursework: Machine Learning, Computer Vision, Natural Language Processing, Deep Learning, Artificial Intelligence, Big Data

Delhi Technological University, New Delhi, India **Aug 2015 to May 2019**

Bachelor of Technology – Electronics and Communication Engineering (9.21/10 CGPA)

TECHNICAL SKILLS

Languages: Proficient: Java, Python | Intermediate: C/C++, CUDA, MATLAB, HTML, CSS, JavaScript, SQL

Core Competencies: scikit-learn, NumPy, Pandas, SciPy, Matplotlib, frameworks (PyTorch, TensorFlow), Neural Networks, OpenCV, PIL, Scikit-image, YOLO, Fast-RCNN, LSTM-RNN, ResNet, VGG, SLAM, SIFT, Image Processing, Data Visualization/Analysis, Git, Hadoop, Linux

RESEARCH EXPERIENCE

Student Researcher | Hays lab, Georgia Tech **Jan 2020 to Present**

- Building machine learning models for **inference** by **self-driving cars** using time series LiDAR data from Argoverse datasets
- Automating **semantic map creation** through **3D scene understanding** for safe autonomous navigation in new environments
- Working for public release of automation benchmark and open-source evaluation tools

Publication: Kumar A., Nayyar A., **Upasani S**. et al. (2020) *Empirical Study of Soft Clustering Technique for Determining Click Through Rate in Online Advertising*. Advances in Intelligent Systems and Computing. Springer. https://doi.org/10.1007/978-981-32-9949-8_1

WORK EXPERIENCE

Software Development Engineer Intern | Amazon, Seattle USA **May 2020 to Jul 2020**

- Led **end-to-end development** (design, coding, testing, deployment) of **visualizer** for debugging inventory plans by supply chain
- **Minimized plan load times by** nearly **50%** by virtue of lazy data loading and losing monolithic structures
- **Reduced cost** of backend services **to $10 (3-fold reduction)** per month by implementing a serverless architecture

  Technologies Used: Native AWS (Lambda, S3, CloudFront, API Gateway), Java, Rest API, Angular, JavaScript, HTML

Software Engineer Intern | Western Digital (SanDisk), India **Jun 2018 to Jul 2018**

- Executed T-SQL programs to **minimize dashboard data retrieval times by 5 folds** and deployed them in production
- Delivered solutions for assessing drive's lifetime utilizing **statistical machine learning models**; **achieved 80% accuracy**
- Co-led development of **RPG Schematic Generator** project; accelerated deployment by a week through bug-fixes

  Technologies Used: Python, scikit-learn, NumPy, Pandas, Microsoft SQL Server, T-SQL, C#

Software Development Engineer Intern | Andritz Hydro Pvt. Ltd, India **Nov 2017 to Jan 2018**

- Developed **attendance monitoring** system; Accomplished **internal messaging** by implementing chat-server module

ACADEMIC PROJECTS

Facebook Habitat AI Challenge, Prof. Zsolt Kira | Georgia Tech

- Implemented **supervised learning** baseline for **point goal navigation** with guidance of Facebook AI research scientists
- Developed a benchmark based on RNN for predicting actions given state of **embodied agent** with nearly **60% accuracy**

Visual Question Answering (VQA), Prof. Diyi Yang | Georgia Tech

- Built and tested machine learning models for answering questions with binary, numeric and multiple-choice answers
- Employed **attention** to give equal importance to **language and visual cues**; utilized **novel fusion** strategy for **feature engineering**

Semantic Segmentation on Antarctic Landsat-8 Imagery, Prof. Ling Liu | Georgia Tech

- Tested various **image processing** techniques to extract rock outcrop from satellite images; achieved **60% accuracy**
- Trained and tuned **deep learning models (SegNet, U-Net)** to study ice sheet depletion and global warming in Antarctica

Visual Relationship Detection, Prof. Devi Parikh | Georgia Tech

- Extracted object relationships in images through **object detection** and **classification**; utilized **few-shot learning** and **triplet loss**
- Trained **CNN models** with bounding boxes and glove embeddings; Achieved **accuracy (70%), precision (70%), recall (65%)**