Anjul Tyagi

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Address: 700 Health Sciences Drive, Stony Brook, New York, USA. Zip-11790
Looking for full-time opportunities in ML/AI research engineering, Computer Vision, HCI, or Data Visualization

EDUCATION

Ph.D. in Computer Vision and Visualization   Stony Brook, NY
Stony Brook University; GPA: 3.84/4.0   *Aug 2017 - Present*
Advisor: Klaus Mueller
Coursework: Machine learning, Computer Vision, Data Science, Big Data Analytics

B.S. in Computer Science   India
Indian Institute of Information Technology; GPA: 8.63/10.0   *Aug 2013 - May 2017*

RELATED WORK EXPERIENCE

Meta (Facebook), ML Intern   May 2021 - Aug 2021
Federated Learning, Sparse Neural Networks, Deep Learning, Hive, Big Data, PyTorch, Python
- Developed and Evaluated Sparse Neural Networks for mobile devices using Federated Learning
- Our Sparse Neural Network implementation resulted in 0.14% gain in the evaluation metric compared to the existing Dense Neural Network used by Facebook's Ads Monetization team.

Seagate Technologies, ML Intern   May 2020 - Dec 2020
Autonomous Vehicles, Computer Vision, Deep Learning, Active Learning, CNN, BERT, NLP, React JS, Python
- Developed a 3D object detection and activity tracking deep learning model for LiDAR data. This project aims at reducing the overall security monitoring cost by 2% across Seagate offices.
- Worked on the deployment of above model with NVIDIA Jetson Nano. This included decreasing the network latency with model pruning and quantization, and developing a sustainable model re-training and improvement strategy.

Mozilla, Software Developer Intern   Dec 2016 - Aug 2017
Python, Docker, REST API
Worked in the development of Mozilla's update handling server. Implemented docker support for the system. Fixed issues with frontend and testing. Contributions Link.

FEATURED PUBLICATIONS

Visual Steering for One-Shot Deep Neural Network Synthesis (link)   TVCG Preprint 2020
Tyagi, A. Xie, C. Mueller, K. Trans. on IEEE transactions on visualization and computer graphics, 2020 preprint
Created an interactive tool to assist in DNN architecture search using a One-Shot technique. The tool utilizes user expertise along with automatic graph search to find the optimal DNN architecture for a given problem.

ICE: An Interactive Configuration Explorer for High Dimensional Categorical Parameter Spaces (link)   IEEE VIS 2019
Tyagi, A. Cao, Z. Estro, T. Zadok, E. Mueller, K. in Proc. of VAST, IEEE VIS, Vancouver, Canada, 2019
Developed a visualization scheme to study categorical datasets wrt to a numerical variable for better user centric optimization.

Graphs Are Not Enough: Using Interactive Visual Analytics in Storage Research (link)   USENIX, HOT STORAGE 2019
Cao, Z. Kuening, G. Mueller, K. Tyagi, A. Zadok, E. in Proc. of USENIX HotStorage workshop, Renton, USA, 2019
Study to show how visualization can be used to optimize storage systems in the cloud.

Task Classification Model for Visual Fixation, Exploration and Search (link)   ACM, ETRA 2019
Tyagi, A. Kumar, A. Burch, M. Weiskopf, D. Mueller, K. in Proc. of ACM, ETRA, Denver, USA, 2019
Using Machine Learning to classify the user actions given the eye tracking data.

KEY SKILLS

Programming Languages: Python, JavaScript, C++, Java.
Tools: Flask, PyTorch, TensorFlow, React, D3.js, SQL, Cloud Computing (Google Cloud, AWS, Azure), Hadoop, Docker

FEATURED PROJECTS

Automatic Infographic Generation with user text content   2021
PyTorch, Deep Learning, CNN, BERT, NLP, React JS, Python
Developed techniques to automatically generate Infographics based on the text entered by users on a canvas. Similar to MS PowerPoint Design Ideas, but this method generates complete, aesthetic infographics with semantic meaning and well placed design elements.