Abhishek Kumar

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EDUCATION

UNIVERSITY AT BUFFALO MS IN COMPUTER SCIENCE December 2022* | Buffalo, NY GPA: **3.668 / 4.0**

COURSEWORK: Deep Learning, Machine Learning, Computer Vision and Image Processing, Sports Video Analytics, Design of Algorithms, Distributed Systems, Information Retrieval, Deep learning for Biometrics, Computational Investments

SRM UNIVERSITY B. TECH IN MECHANICAL ENGINEERING May 2017 | Chennai, TN GPA: **3.94 / 4.0**

RELEVANT COURSEWORK: Advanced Calculus, Numerical Methods, Robotics, MATLAB, Intro to Programming

SKILLS

(**proficient**) Python, C++, PyTorch, Tensorflow, Keras, SQL, Git, Docker (**familiar**) Flask, OpenCV, Kafka

EXPERIENCE

UNIVERSITY AT BUFFALO | TEACHING ASSISTANT May 2022 – July 2022 | Buffalo, NY

- Guided students to develop deep learning projects for video analysis in the sports domain
- Assisting professor David Doermann in conducting classes and grading student presentations.

INFOSYS | SYSTEMS/SOFTWARE ENGINEER Feb 2018 – Aug 2020 | Bhubaneswar, www.infosys.com

- Developed a plant lifecycle management application for end to end manufacturing management.
- Created invoice correction application for business users in purchasing domain.
- Integrated Google Map API with CUMMINS Global Service Locator application.
- Automated cron jobs to improve process control and increased batch transfer efficiency by 8%.
- Migrated CUMMINS internal applications from Oracle Apex12 to Apex17. Reduced login latency by 20%.
- Tested and fixed production bugs and server-side validations for SOX and Non-SOX applications.

PROJECTS github.com/abhinine4

SOCCER PLAYER RE-IDENTIFICATION | Python, C++, PyTorch, Torchreid

- Developed a soccer player Re-identification model for SoccerNetV2 challenge hosted by Sports Radar.
- Proposed model consisted of a two stream CNN network to learn part features and appearance features separately using pretrained networks and optimized using triplet an Id loss. Ranked 8th in the competition

TEXT 2 IMAGE SYNTHESIS USING GAN | Python, Tensorflow, FID, Word2Vec, Resnet

- Implemented a text to image generation model using Deep Residual GANs on Flickr8k dataset.
- Trained the dataset on a modified generator with Resnet blocks to generate text-guided fake images.

PANORAMA STITCHING | Python, OpenCV

- Created a program to stitch stereo images pairs to build a panorama with SIFT features.
- Implemented K-Nearest Neighbor, ratio testing and RANSAC to stitch images with seamless boundaries.

RESEARCH

- Ear Hair cell detection and counting using Deep Learning under Prof. Junsong Yuan and Prof. Jinjun Xiong.
- Lidar point cloud segmentation using local feature aggregation for autonomous vehicles (Independent).