Kaushal Bhogale

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EDUCATION

M.Tech in Computational and Data Sciences (2019-2021 Expected)

Indian Institute of Science, Bangalore
Research Lab : Video Analytics Lab
CGPA : 9.3/10

B.E. in Information Technology (2015 - 2019)

Vivekanand Education Society's Institute of Technology, University of Mumbai
CGPA : 9.54/10

COURSES AND SKILLS

Courses	Grade
Deep Learning for Computer Vision	A+
Data Analysis and Visualization	A+
Machine Learning for Signal Processing	A
Numerical Linear Algebra	A

- ❖ Version control (Git/Github), Design Patterns
- ❖ Vim, Shell scripting, Docker
- ❖ Python, Pytorch, Tensorflow, Numpy, OpenCV
- ❖ C/C++, OpenMPI, CUDA Programming

RELEVANT PROJECTS

Data-free Knowledge Distillation for Segmentation (JAN 2020 - JUN 2020)

- ❖ One of the first approaches to perform data-free knowledge distillation for segmentation tasks.
- ❖ Extended the Data-enriching GAN (DeGAN) training framework for larger image sizes.
- ❖ Proposed a novel weighted diversity loss and mixed data knowledge distillation to improve performance.

Parallel Online K Nearest Neighbours (MAY 2020 - JUN 2020)

- ❖ Developed a parallel algorithm to perform K nearest neighbour search in an online setting.
- ❖ Proposed a balancing algorithm for a parallel KD Tree to ensure minimum communication overhead and fast search. Experiments were performed on a 12 node cluster.

Neural Style Transfer to improve robustness of CNNs (SEPT 2019 - DEC 2019)

- ❖ Used Neural Style Transfer as a data augmentation technique to improve generalisation of CNNs.
- ❖ Random styles are sampled from a style embedding space to augment images.

Cross Verification of Images for Eye care (NOV 2017 - FEB 2018)

- ❖ The task of one-shot face verification was needed for a patient dataset provided by an NGO.
- ❖ Used a Siamese Neural network that directly learns a mapping from face images to a compact Euclidean space where distances directly correspond to a measure of face similarity.
- ❖ Deployed the face recognition system for production.

PROGRAMMING EXPERIENCE

Kharagpur Winter of Code (IIT KGP) (DEC 2017 - JAN 2018)

- ❖ Developed a digital assistant for desktop that uses speech-recognition to automate everyday tasks.
- ❖ Worked with the open-source community to work on the live issues of the project.

BitCamp 2018 (MARCH 2018)

- ❖ In this 24 hour hackathon, we developed an application to guide farmers grow the right crop in their land.
- ❖ Used open-source government data to analyse which crop yields maximum profit in a given location.

RESEARCH EXPERIENCE AND PREPRINTS

- ❖ Attended and volunteered in the thirty-seventh International Conference on Machine Learning (ICML 2020)
- ❖ Preprint: Face Verification and Forgery Detection for Ophthalmic Surgery Images, *K. Bhogale, N. Shankar, A. Juvekar, Asutosh Padhi*, arXiv:1811.06194 [cs.CV]