Adhitya Swaminathan

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EDUCATION

Indian Institute of Technology, Banaras Hindu University - *Bachelor of Technology*

July 2015 - May 2019

- Majored in Metallurgical Engineering
- Cumulative Grade Point Average : 8.76 / 10

Chettinad Vidyashram, Chennai - *Senior Secondary School*

April 2013 - April 2015

- Specialization in Physics, Mathematics, Chemistry and Computer Science.
- Final Examination Score : 93.4%

TECHNICAL EXPERIENCE

Video Analytics Lab, Indian Institute of Science - *Research Intern*

May 2018 - December 2018

- Worked with Prof. Venkatesh Babu towards designing a DNN architecture for Deep Learning based HDR Alignment and Fusion.
- The overall network is capable of fast alignment and fusion of high resolution images.
- Paper accepted at IEEE International Conference on Computational Photography 2019, Tokyo.

Computer Vision Lab, Indian Institute of Technology, Madras - *Research Intern*

May 2017 - November 2018

- Worked with Prof. Anurag Mittal to design an Unsupervised Intelligent Video Summarization Network.
- Introduced the concepts of saliency scores and a variance-maximizing loss function to promote sparsity.
- Achieved a huge boost in accuracy of over 10%. Papers submitted to BMVC 2019 and TIP for review**.**

Metallurgy Department, Indian Institute of Technology, BHU - *Project Leader*

January 2018 - November 2018

- Worked with Prof. V. Jindal and Prof. K. K. Singh, towards the Application of Neural Networks to model Electric Arc Furnaces (Thesis Project).

- Built a multi-layer perceptron in Python and wrapped it in a GUI written with Qt4. This was trained with real-time data from an Aluminium plant.

PACE Lab, Indian Institute of Technology, Madras - *Intern*

December 2016

- Worked with [Prof. Rupesh Nasre](#), of the PACE Lab, IIT Madras. Designed and implemented a Shell for Combinatorial Graph Applications in C++.
- Created the graph data structure from scratch, and implemented popular graph algorithms for this data structure.
- Verified the project's accuracy and scalability with the Stanford SNAP dataset. The code is available in the [GitHub repository](#).

SKILLS

Programming Languages : Python, C++, C

Libraries : Tensorflow, Keras

Frameworks : Git, LaTeX

RESEARCH INTERESTS

Machine Learning (Deep Learning), Computer Vision, Robotics

PUBLICATIONS

1. *A Fast, Scalable, and Reliable Deghosting Method for Extreme Exposure Fusion*, IEEE International Conference on Computational Photography 2019.

TECHNICAL POSITIONS HELD

CSE Department, Indian Institute of Technology, Varanasi - *Teaching Assistant*

January 2018 - May 2018

- Teaching Assistant for CSO-101 (Introduction to Computer Programming).
- Responsible for conducting lab classes for over 120 freshmen.
- Regularly conducted quizzes to test competency.
- Graded final examination answer scripts for the course.

OPEN COURSEWARE

[Introduction to Computer Science (CS50)](#), Harvard University

[Mathematics for Computer Science](#), Massachusetts Institute of Technology

[Introduction to Algorithms](#), Massachusetts Institute of Technology

[Introduction to Probability](#), Harvard University

[Machine Learning](#), Georgia Tech

[Convolutional Neural Networks for Visual Recognition](#), Stanford University