Dhruv Kohli

Curriculum Vitae

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Education

2012–2016 **B.Tech in Mathematics & Computing**, *Indian Institute of Technology*, Guwahati.
CGPA: 9.06/10

2011–2012 **Higher Secondary**, *DAV Public School*, Delhi, India.
Overall score: 92%, Mathematics score: 98%

Work Experience

06/2016–present **Researcher, Advanced Technology Lab - Multimedia Division, Samsung Research Institute, Bangalore, India**

Dr. Viswanath Gopalakrishnan

- Working on rigid-transformation and deformation invariant deep hierarchical models along with maximum margin classifiers non-linear in parameters, with the aim of building models having high generalization across different datasets.
- Also, working on an attention-based model for human-action recognition in images.

05/2015–07/2015 **Research Intern, Cloud and Information Services Lab Group Microsoft Research, Bangalore, India**

Dr. Vinod Nair, Dr. Sundararajan Sellamanickam

- Explored sparse dictionary learning and coding techniques to detect issues in high-dimensional time series data.
- Modeled data using a time-varying Gaussian distribution whose mean and covariance had dictionary based representations that were learned automatically.
- Other approaches that we explored were - clustering on subsets of attributes, switching state space models, Kalman filtering and an approach based on KL divergence.

05/2014–08/2014 **Software Developer, Google Summer of Code, International Neuroinformatics Coordinating Facility**

Dr. Rembrandt Bakker, Dr. Piotr Majka

- Developed an open source software "mindthegap" that vectorizes bitmaps without introducing gaps or overlaps between adjacent regions. The core component was an algorithm for automatically fitting digitized curves using cubic bezier splines.
- Added services on Scalable Brain Atlas website to convert a set of three-dimensional volumes into an atlasing template.

Publications

Dhruv Kohli, Biplab Ch Das, Viswanath Gopalakrishnan, Kiran Nanjunda Iyer, Learning Rotation Invariance in Deep Hierarchies, International Conference on Acoustics, Speech and Signal Processing, 2017 (Submitted)

Awards and Honors

2016 Ranked 2 in the batch of 54 students based on CGPA, Mathematics and Computing Department, IIT Guwahati.

2014 Ranked 1 in CUDA Coding Challenge India organized by Nvidia in High Performance Computing Conference.

2014 Ranked 2 in Machine Learning module of Kriti, Intra-College Technical Competition.

2013 Among top 5 teams in Code.Fun.Do organized by Microsoft at IIT Guwahati.

2012 Ranked 2076 out of about 500 thousand students in IIT-JEE (Joint Entrance Exam).

2012 Ranked 224 out of 40 thousand students after writing the exam and being interviewed for KVPY (Kishore Vigyan Protsahan Yojana) Fellowship.

2008 Student of the year by Times of India for excellent all-round performance.

Skills

Prog. Lang.	Python, C, C++, CUDA
Stats. Tools	MATLAB, R
ML Libs	Keras, Theano, Caffe
Others	Git, LateX, OpenMP, MPI, OpenCV

Courses

Linear Algebra, Real Analysis, Probability Theory and Random Processes, Monte Carlo Simulation, Statistical Analysis of Financial Data, Statistical Simulation and Data Analysis, Artificial Intelligence, Intelligent Systems and Interfaces.