

HARISH RAJAGOPAL

Fourth Year Undergraduate

Computer Science and Engineering · Indian Institute of Technology Kanpur

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EDUCATIONAL QUALIFICATIONS

Degree	Year	Institution/Board	CGPA/%
B. Tech	2016 - Present	IIT Kanpur	9.7/10.0
Sr. Secondary	2016	Maharashtra HSC	90.46%
Secondary	2014	Maharashtra SSC	93.6%

ACADEMIC ACHIEVEMENTS

- Awarded **Academic Achievement Awards** for outstanding performance in 1st and 2nd years.
- Secured All India Rank of **185** in **JEE Advanced 2016**.
- Secured All India Rank of **205** in **JEE Mains 2016**.

INTERNSHIPS

- Research Intern, NYU Tandon**
Prof. Pawel Korus, Prof. Nasir Memon May '19 - July '19
 - Researched robust image hashes that are immune to typical image transformations, while being sensitive to malicious image edits such as face swaps & deep fakes.
 - Developed a *framework* for testing against compression, contrast changes, gamma, blurring, warping.
 - Tested the networks against *adversarial attacks* such as *FGSM*, *Projected Gradient Descent*, *Boundary Attack*.
- Research Intern (Remote), NYU Tandon**
Prof. Yao Wang May '18 - July '18
 - Researched *differentiable plasticity* for *domain transfer* in images using Convolutional Neural Networks.
 - Improved *efficiency* in the temporal update rule for the *Hebbian weights* by using *transpose convolution*.
 - Achieved improvement in classification accuracy, when adapting models from the SVHN dataset to MNIST.
- Intern, Machine Learning Team, New York Office of IIT Kanpur**
Prof. Manindra Agrawal May '17 - July '18
 - Developed an *online* text clustering model using a fully-online modification of the *DBSCAN* algorithm.
 - Implemented an *online* document vectorisation model using *Distributed Memory paragraph vectors*.
 - Deployed above models using Docker and integrated with existing infrastructure using Apache Kafka.
 - Developed a *Word2Vec* model to identify duplicate documents using *Word Mover's Distance* on word vectors.
 - Trained a CNN with sliding windows for English OCR.

RELEVANT COURSES

Compiler Design (A★)
Visual Recognition
Probability and Statistics

Algorithms II
Introduction to Machine Learning
Discrete Mathematics

Operating Systems
Data Structures and Algorithms
Fundamentals of Computing (A★)

PROJECTS

- Compiler for Golang in Python**
Prof. Amey Karkare Jan '19 - Apr '19
 - Implemented basic C-like features like data types, functions, pointers, structs, library imports, and I/O.
 - Implemented advanced features like composite literals, struct embeddings, typedefs/aliases, operator overloading, multiple value returns, and short declarations.
 - GemOS - Operating Systems Development**
Prof. Debadatta Mishra Aug '18 - Nov '18
 - Developed an object-store FUSE filesystem.
 - Implemented process scheduling, sleeping, signal handling, syscalls and exception handlers.
 - Implemented virtual memory and paging.
 - No-Frills Cab Locator - Android App**
Prof. Nisheeth Srivastava Sept '18 - Nov '18
 - A one-button-touch cab service with apps created using the *Ionic framework* for Android as part of a course.
 - Developed separate customer and driver apps using *Angular2* in Typescript and *Sass* for styling.
 - Improving GANs through Test-Time Constraints**
Prof. Vinay Namboodiri, Prof. Chetan Arora Jan '19 - Present
 - Multi-Agent GANs for Image Super-Resolution**
Prof. Vinay Namboodiri Aug '18 - Dec '18
 - Higher-Order Optimisation in Deep Learning**
Prof. Piyush Rai Sept '18 - Nov '18
 - 7th Inter-IIT Tech Meet (Silver Medal)**
IIT Kanpur Contingent Dec '18
 - 6th Inter-IIT Tech Meet**
IIT Kanpur Contingent Dec '17 - Jan '18
 - Depression Therapy Chatbot**
Programming Club, IIT Kanpur May '17 - July '17
- ## TECHNICAL SKILLS
- Programming Languages:** Python, Bash, C, C++, \LaTeX , PHP, HTML+CSS, MySQL, Typescript
 - Software and Utilities:** TensorFlow, PyTorch, Keras, Numpy, Git, OpenCV, Hyperopt, Gensim, Ionic