

EDUCATION

Sep '19 - Jun '21	M.S. - COMPUTER SCIENCE (FOCUS IN A.I.)	STANFORD UNIVERSITY	N/A
Apr '17	B.Tech - COMPUTER SCIENCE AND ENGINEERING	IIT KANPUR	9.9/10.0

ACADEMIC ACHIEVEMENTS

- Secured **Department Rank 1** among 110 students in the Department of Computer Science, IIT Kanpur
- Received the **Academic Excellence Award** for exceptional academic performance in **all** academic sessions at **IIT Kanpur**
- Received **A*** grade in **12** courses (Awarded for Outstanding Performance in a course)
- Received **Charpak Research Scholarship '15** and **MITACS Globalink Award '16**
- Awarded Gold medal for being one of the **Six Awardees** selected for **IMO training camp**, after clearing **INMO '13**
- Awarded Gold medal for being selected for **IPhO training camp**, after clearing **INPhO '13**

WORK EXPERIENCE

RUBRIK INC.

Bangalore, India

JUL '17 - JUN '19

Member of Technical Staff

- Worked with the team managing **Cerebro** : the layer responsible for ingestion, propagation and management of Rubrik's data
- Designed and implemented modifications to enhance **Rubrik's data upload** and **bandwidth framework**
- Conceptualised, designed and implemented improvements to the **central data management module**
- Coordinated, formulated and built Rubrik's **primary SLA framework** for Polaris to completion from scratch

INTERNSHIPS

FYUSION INC.

San Francisco, U.S.

JUN '19 - SEP '19

Research Engineering Intern

- Developed and evaluated approaches to **infer 3D structure from 2D images** in an **unsupervised manner**
- Use multi-view cues along with category-specific mesh hypotheses to reason about the underlying structure

TWO ROADS TRADING

Bangalore, India

MAY '17 - JUL '17

Trading Intern

- Mentored by **Rakesh Kumar, Lead Trader** and **M.R. Adithya, Mid-Term Trader** for developing Gap based trading strategies
- Designed and implemented the data pipeline along with the backtesting framework for quick verification of alphas.

C.A.R.I.S. LAB

University of British Columbia, Vancouver, Canada

MAY '16 - JUL '16

Research Intern

- Developed applications for prediction of **single-arm reaching** motion by humans to create smooth human-robot interactions
- Designed and implemented algorithms for **aligning points clouds** received from multiple Kinects.

XEROX RESEARCH

Xerox Research Center India, Bangalore, India

Nov '15 - DEC '15

Research Intern

- Mentored by **Om Deshmukh, Head Researcher, Multimedia Analytics** and **Sumit Negi, Principal Researcher** for developing and evaluating algorithms for Multi View Clustering using Non Negative Matrix factorization.

I.N.R.I.A.

French Institute for Research in Computer Science, Rocquencourt, France

MAY '15 - JUL '15

Research Intern

- Mentored by **Laurent Viennot, Senior Researcher** and **Adrian Kosowski, Researcher** for finding alternate paths in giantroad networks according to various criterias
- Mentored by **Adrian Kosowski** for finding good local features which are suitable predictors for global features

PUBLICATIONS

ADAScan: Adaptive Scan Pooling in Deep Convolutional Neural Networks for Human Action Recognition in Videos

Nishant Rai*, Amlan Kar*, Karan Sikka, Gaurav Sharma

CVPR '17

Poster

Bi-Modal Regression for Apparent Trait Analysis

ChaLearn Joint Contest on Multimedia Challenges beyond Visual Analysis

Nishant Rai

ICPR '16

Oral - Workshop

Partial Multi-View Clustering Using Graph Regularized NMF

Nishant Rai, Sumit Negi, Santanu Chaudhury, Om Deshmukh

ICPR '16

Oral

SELECTED PROJECTS

ADAPTIVE SCAN POOLING FOR HUMAN ACTION RECOGNITION

AUG '16 - APR '17

- Project aimed at **Human Action Recognition** through Deep CNNs by proposing a novel method for **temporally pooling** video frames.
- Our approach learns to **pool discriminative** and **informative** frames in a **single temporal scan** of the video.

AUTOML: AUTOMATED MACHINE LEARNING

JAN '18 - MAR '18

- Project for challenge hosted for **ChLearn AutoML**, **PAKDD '18 workshop**. Secured **4th** place amongst **200+** teams.
- Experimented with multiple **learning algorithms**, **hyper-parameter selection** and **ensemble creation** strategies.

CHALEARN: APPARENT PERSONALITY ANALYSIS THROUGH VIDEOS

JUN '16 - JUL '16

- Project for challenge hosted for **ChLearn Looking at People**, **ECCV '16 workshop**. Secured **6th** place amongst **85** teams.
- Experimented with multiple **audio** and **visual** feature based models including **Background-Context** and **Facial feature** models.

DEEP LEARNING FOR VISUAL QUESTION ANSWERING:

MAR '16 - APR '16

- Project aimed at constructing Neural Network-based models for **Answering Open-ended questions** about images.
- Multiple methods** used for combining the visual and audio features, and their effect on the performance was studied. The entire network (except the CNN for image features) is trained **End-to-End**.

OTHER PROJECTS

VISUAL STORY TELLING

Create narrative descriptive stories given a sequence of images

REINFORCEMENT LEARNING FOR GAMES

RL strategies for games and multi agent interactions

COURSE MANAGEMENT SYSTEM

Online course management platform for profs. and students

REAL-TIME VEHICLE RECOGNITION

Classify Vehicles and extract info from License Plates

ADA COMPILER

End-to-End Compiler for a subset of ADA in the x86 Architecture

COMPUTER NETWORKS

Implemented a basic HTTP server, Proxy server, STCP layer and Router

MULTI-SENSE WORD EMBEDDINGS

Unsupervised computation of Multi-Sense Embeddings

NACHOS OPERATING SYSTEM

Extend the NachOS operating system

MULTI-MODAL EMOTION RECOGNITION

Emotion detection using Multiple modalities

GEOMETRIC DATA STRUCTURES

Data Structures to efficiently answer Geometric Queries

SENTIMENT ANALYSIS OF SOCIAL MEDIA

Interface to analyze social sentiment for brands

MINOR PROJECTS

Othello, BattleShip AI Bot, Captcha Decoder, Multi-Label Question Classification
Intra-Cluster Distance Minimization, Document Classification

TECHNICAL SKILLS

Programming Languages: C, C++, PYTHON, SCALA, GOLANG, JAVA, MATLAB, CSS, JAVASCRIPT, PHP, GNU OCTAVE
Software and Utilities: OPENCV, GIT, KINECT SDK, GNU PLOT, VERILOG, L^AT_EX, AUTOCAD INVENTOR

POSITIONS OF RESPONSIBILITY

Jul '16 - Apr '17	Tutor, Introduction to Computing - ESC101A
Jan '15 - Apr '16	Member, Core Team Academics, Counseling Service
Aug '14 - Mar '15	Senior Executive, Public Relations, Techkriti '15, IIT Kanpur
Apr '14 - Apr '15	Secretary, Programming Club
Jun '14 - Apr '15	Academic Mentor (MTH101/102) and Student Guide, Counselling Service

ACHIEVEMENTS IN PROGRAMMING

- Secured **1st** place in **Microsoft CodeHunt** amongst individuals from over the country. Selected for **finals** in **China**.
- Secured **13th** place in **IOPC** amongst **900+** teams from over the world held during **Techkriti '15**.
- Secured **1st** place in the event **Chaos** (Esoteric Programming Contest) held during **Techkriti '15**
- Secured **18th** place in **Morgan Stanley Codeathon 2014** amongst **1000+** individuals from over the country.
- Secured **8th** place in **ZS Associates Data Science Challenge** amongst **300+** students from over the country.
- Secured **1st** place in the **Auquan Trading Contest '17** amongst **100+** individuals from over the country.
- Secured **26th** place in **ACM ICPC Onsite Contest '14** amongst **250+** teams from over the country.

EXTRA-CURRICULAR ACTIVITIES

- Panelist in discussion on "**Beyond AI and Robots: What is left for Humans?**" held at IIT Kanpur.
- Secured **1st** place in **Reviews** - Lifestyle event in **Spectrum '14** (Inter-Hostel Competition).
- Secured **1st** place in **Tennis (Singles)** in **Freshers' Inferno '13** (Inter-Hostel Sports Competition).