Nishant **Rai**

Email: nishantr018@gmail.com

EDUCATION

April 2017	B.Tech (Computer Science And Engineering)	IIT Kanpur	9.9/10.0
April 2013	Class XII (Central Board for Senior Education)	K.V. Delhi	96.20 %
April 2011	Class X (Central Board for Senior Education)	K.V. Shillong	10.0/10.0

ACADEMIC ACHIEVEMENTS

- Secured **Department Rank 1** among 110 students in the Department of Computer Science
- Received the **Academic Excellence Award** for exceptional academic performance in **all** academic sessions
- Received A* grade in **12** courses (Awarded for Outstanding Performance in a course)
- Received **Charpak Research Scholarship '15** and **MITACS Globalink Award '16**
- Secured AIR - **257** in **JEE (Advanced) 2013** and AIR - **79** in **JEE (Mains) 2013**
- 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.
Jul '17 - Present
Bangalore, India — Software Engineer

- 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

TWO ROADS TRADING
May '17 - Jul '17
Bangalore, India — 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
May '16 - Jul '16
University of British Columbia, Vancouver, Canada — Research Intern

- Mentored by **Justin Hart, Post Doc, CARIS Lab** and **Elizabeth Croft, Head, CARIS Lab** , for prediction of **single-arm reaching** motion by humans in order to create smooth and safe Human-Robot interactions.
- Mentored by **Justin Hart, Post Doc, CARIS Lab** for **aligning points clouds** being received from **multiple Kinects**.

X.R.C.I
Nov '15 - Dec '15
Xerox Research Center India, Bangalore, India — Research Intern

- Mentored by **Om Deshmukh, Senior Researcher** (Area Manager, Multimedia Analytics), **XRCI** and **Sumit Negi, Principal Researcher, XRCI** , for developing and evaluating algorithms for Multi View Clustering using Non Negative Matrix factorization.

I.N.R.I.A.
May '15 - Jul '15
French Institute for Research in Computer Science, Rocquencourt, France — Research Intern

- Mentored by **Laurent Viennot, Senior Researcher, INRIA** and **Adrian Kosowski, Researcher, INRIA** for finding alternate paths in giant road networks according to various criterias
- Mentored by **Adrian Kosowski, Researcher** 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 — Accepted
Amlan Kar*, Nishant Rai*, Karan Sikka, Gaurav Sharma — Nov '16
2017 IEEE Conference on Computer Vision and Pattern Recognition

Bi-Modal Regression for Apparent Trait Analysis — Accepted
Nishant Rai — Aug '16
ChaLearn Joint Contest on Multimedia Challenges beyond Visual Analysis
23rd International Conference on Pattern Recognition

Partial Multi-View Clustering Using Graph Regularized NMF — Accepted
Nishant Rai, Sumit Negi, Santanu Chaudhury, Om Deshmukh — Jul '16
23rd International Conference on Pattern Recognition

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 **ChaLearn 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 **ChaLearn 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, GNUPLOT, VERILOG, LATEX , 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 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).