

ARCHIT SHARMA

JUNIOR UNDERGRADUATE, IIT KANPUR

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EDUCATION

2018 Bachelor of Technology, IIT KANPUR
Expected Major: *Electrical Engineering*
Minor: *Computer Science (Artificial Intelligence)*
CPI: 9.8/10

2014 DAV Public School, Amritsar
AISSCE, XII Board: 95/100
AISSE, X Board: 10/10

ACHIEVEMENTS

- 2016 Secured 63 rank in online round for ACM ICPC INDIA REGIONALS.
- 2016 Selected for TEXAS A&M-IITK SUMMER RESEARCH INTERNSHIP PROGRAM.
Only student to achieve so in SOPHOMORE year.
- 2016 Awarded *A** for exceptional performance in six courses.
- 2015 Awarded ACADEMIC EXCELLENCE AWARD by IIT Kanpur.
- 2014 Secured 376 rank in JEE ADVANCED among 150,000 students.
- 2014 Secured 730 rank in JEE MAINS among 1.2 million students.
- 2012 Secured FIRST POSITION in IX-X category in NASA AMES SPACE SETTLEMENT DESIGN CONTEST among submissions from over 14 countries.
- 2010 Awarded NATIONAL TALENT SEARCH SCHOLARSHIP (NTSE) by Govt. of India.

WORK EXPERIENCE

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| MAY-JUL 2016 | RESEARCH INTERN at TEXAS A&M UNIVERSITY, USA <i>Dr. Srinivas Shakkottai, Associate Professor, ECE Department</i> <ul style="list-style-type: none">• Worked on analyzing the privacy of the user in DSRC enabled cars, which allows vehicle to vehicle/infrastructure communication.• Broke down 229 GB BSM DATASET from Ann Arbor, Michigan in 6 hours by processing on 20 cores of IBM's Ada Cluster, reducing from expected computation time of 4 days.• Successfully demonstrated the lack of privacy in Random ID Switching protocol by reconstructing car routes with 98.37% accuracy. More sophisticated protocols based upon driving behaviour under test. |
| MAY-JUL 2015 | ANDROID APPLICATION DEVELOPMENT INTERN <i>Hughes Systique, Gurgaon, India</i> <ul style="list-style-type: none">• Worked on GoSURAKSHEIT, an android based application for women safety. Integrated the new FACEBOOK API for quick status updates containing custom message and user location in case of emergency. |

PROJECTS

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|--------------|---|
| SEP-NOV 2016 | VIDEO SUMMARIZATION <i>Course Project for Machine Learning under Dr. Piyush Rai Github Repo</i> <ul style="list-style-type: none">• Implemented VSUMM, a <i>clustering based algorithm</i> using features extracted at frame level. Features tested upon included COLOR HISTOGRAMS and FC7 LAYER FEATURES of VGG16 architecture.• Implemented a <i>deep learning model</i> using two opposite moving LSTM layers combined using a 1D CONVOLUTION layer.• Implemented a custom version of VGRAPH and SIFT based algorithm. |
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| Dec 2015 | VISUAL QUESTION ANSWERING USING DEEP NEURAL NETS <i>under Dr. Vinay P. Namboodiri</i> Github Repo <ul style="list-style-type: none"> Implemented a <i>deep learning model</i> for VQA Dataset. Used the VGG16 ARCHITECTURE to extract visual features. WORD2VEC was used to convert questions to into word vectors, which are fed into a LSTM network. The results are combined using a fully connected MLP, giving a softmax distribution over 1000 most frequent answers. |
| MAY 2016 | TAGGED LOCATION DATA COLLECTION <i>Android Application developed at Texas A&M University</i> Github Repo <ul style="list-style-type: none"> Minimalistic application to collect location data from users tagged with their mode of transport, developed from scratch. Pushes locally written files, containing location data, using FTP to remote server in a multi-threaded environment. |

COURSEWORK

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|-----------------------------|----|--------------------------------|----|
| Machine Learning | A | Probability and Statistics | A* |
| Fundamentals of Computing | A* | Data Structures and Algorithms | A |
| Control Systems | A* | Introduction to Real Analysis | A |
| Linear Algebra and ODE | A | Partial Differential Equations | A |
| Principles of Communication | A | Digital Electronics | A |
| Visual Recognition | # | Digital Signal Processing | # |

A* \equiv Outstanding

\equiv Spring 2017

TECHNICAL SKILLS

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|-------------------|---|
| Proficient | C++, C, Python, \LaTeX |
| Comfortable | JAVA, Shell (Bash), MATLAB |
| Tools | Git, Keras, NumPy, Theano, Scikit-Learn, Matplotlib |
| Operating Systems | Mac, Linux, Windows, Android |

MISCELLANEOUS

SOFTWARE CORNER MANAGER, TECHKRITI'16

Handled logistics for software events in Techkriti, annual technical festival of IIT Kanpur. *Managed a team of six* for conducting events and interacting with prospective participants. Conducted an onsite *Appathon* with over 50 participants from colleges across India. Hosted the *Algorithmic Programming Contest IOPC* with over 400 teams registered across India.

COMPETITIVE PROGRAMMING

[CODECHEF LONG RATING](#): 8190.89.

Over 80 problems solved on [SPOJ](#).

Appearing in Amritapuri and Chennai regionals of ACM ICPC 2017.

STUDENT GUIDE, COUNSELLING SERVICE

Mentored seven freshmen through their first year. Assisted in arranging a *six day orientation* for incoming freshmen.

SECRETARY, PROGRAMMING CLUB

Organized lectures, workshops and contests for over 200 freshmen.

MUSIC

Performed in *Musical extravaganza* and *Fresher's Day* as lead guitarist for Music Club. Stood *second* in eastern music competition in Galaxy'15, cultural event of IIT Kanpur.