

# ARCHIT SHARMA

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## EDUCATION

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- 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

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- 2016 DEPARTMENTAL RANK 1 out of 140 undergraduates in Electrical Engineering.  
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 five 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  
*Dr. Srinivas Shakkottai, Associate Professor, ECE Department*
- 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  
*Hughes Systique, Gurgaon, India*
- 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  
*Course Project for Machine Learning under Dr. Piyush Rai* | [Github Repo](#)
- Implemented VSUMM, a *clustering based algorithm* using features extracted at frame level. Features tested upon included COLOR HISTOGRAMS and FC7 LAYER FEATURES of VGG16 architecture.
  - Implemented a *deep learning model* using two opposite moving LSTM layers combined using a 1D CONVOLUTION layer.
  - Implemented a custom version of VGRAPH and SIFT based algorithm.

Dec 2015	<b>VISUAL QUESTION ANSWERING USING DEEP NEURAL NETS</b> <i>under Dr. Vinay P. Namboodiri</i>   <a href="#">Github Repo</a> <ul style="list-style-type: none"> <li>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.</li> </ul>
MAY 2016	<b>TAGGED LOCATION DATA COLLECTION</b> <i>Android Application developed at Texas A&amp;M University</i>   <a href="#">Github Repo</a> <ul style="list-style-type: none"> <li>Minimalistic application to collect location data from users tagged with their mode of transport, developed from scratch.</li> <li>Pushes locally written files, containing location data, using FTP to remote server in a multi-threaded environment.</li> </ul>

## COURSEWORK

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

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](#): 7737.06.

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, inter-hall event of IIT Kanpur.