# Kushagra Agrawal

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## EDUCATION

**B.E.(Hons) Electronics and Communications**
Birla Institute of Technology and Science, Pilani, Hyderabad, India
Cum. GPA: 8.33 / 10

**Intermediate**
Army Public School
94.2 % | Grad. May 2014
Mathura, India

**Matriculation**
Army Public School
CGPA - 10/10 | Grad. May 2012
Bagdogra, India

## RELEVANT COURSES

Machine Learning
Artificial Intelligence
Information Retrieval
Computational Geometry
Object Oriented Programming
Probability and Statistics
Linear Algebra
Calculus

## AWARDS

**ACM ICPC 2015**
top 50/200, Asia Chennai Regional Round

## EXTRACURRICULAR

**Editor-in-chief, 2016**
Technological Entrepreneurial Cultural Magazine, the annual magazine of BITS Pilani, Hyderabad.
**Director, BITS Model United Nations, 2015**
Director of Human Rights Council, BITS Model United Nations 2015.

## SKILLS

**PROGRAMMING**
C++ • Python • Java • C
**SCRIPTING**
MATLAB • R

## RESEARCH EXPERIENCE

### NATIONAL CENTER FOR AEROSPACE INNOVATION AND RESEARCH Research Intern

May 2017 – July 2017 | Mumbai, India

- Worked with Prof. Asim Tewari on developing a method to detect fake reviews.
- The system developed used a combination of Support Vector Regression and Semantic Similarity to give a probabilistic rating to a review.

### INDIRA GANDHI CENTER FOR ATOMIC RESEARCH | Research Intern

May 2016 – July 2016 | Kalpakkam, India

- Worked on developing an Artificial Neural Network to model the energy efficient features of a High Performance Cluster Computing Node.
- The MultiLayer Perceptron developed used hand-crafted features that affect performance and gave an accuracy of 98% on the test set.

## ACADEMIC PROJECTS

### DEEP LEARNING FOR VIDEO SUMMARIZATION AUG 2017 – PRESENT

- Working with Prof. Anand Narasimhamurthy to compare Deep Learning approaches to video summarization with approaches such as uniform sampling, Shot Boundary Detection.
- Most recently implemented KMeans algorithm to cluster video frames based on features extracted via a Convolutional Neural Network pre-trained on ImageNet dataset.

### AUGMENTED REALITY FOR GAIT ANALYSIS Aug 2017 – Present

- Working with Prof. Tathagata Ray to develop an application that performs gait analysis in a cost effective manner.
- The application to be developed gamifies the exercises for correcting one's gait. The current prototype developed studies difference in movement of subjects in a virtual obstacle course vs a real one.

### DEEP LEARNING FOR IMAGE CLASSIFICATION Aug 2016 - Dec 2016

- Worked with Prof. Anand Narasimhamurthy to study various methods for Image Classification.
- Developed system used Convolutional Neural Networks. It was a VGG16 architecture pre-trained on ImageNet dataset. By adjusting the final fully connected layer, an accuracy of 75% on the CIFAR-10 dataset was achieved.

## PROFESSIONAL EXPERIENCE

### BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE

- Teaching Assistant | Object Oriented Programming | Aug 2017 - Present