

# Ayush Gupta

Junior Undergraduate | <https://ayushgupt.github.io/>  
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## EDUCATION

### IIT DELHI

B.TECH. AND M.TECH. (DUAL DEGREE)  
IN COMPUTER SCIENCE  
Expected June 2019 | New Delhi, India  
Junior Undergraduate  
Cum. GPA: 8.22/10

## COURSEWORK

### UNDERGRADUATE

Machine Learning  
Artificial Intelligence  
Numerical Algorithms  
Programming Languages  
Operating System  
Theory of Computation  
Software Design Practices  
Computer Networks  
Computer Architecture  
Parallel and Distributed Systems  
Database Management Systems  
Analysis and Design of Algorithms  
Discrete Mathematical Structures

## SKILLS

### PROGRAMMING

Over 5000 lines:  
Java • C++ • Python • MATLAB  
Familiar :  
Javascript • SML • R • ARM  
Technologies:  
Android • Codeigniter • Linux and Bash  
Scripting

### LINKS

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Github:// [ayushgupt](#)  
LinkedIn:// [ayushgupta12](#)  
YouTube:// [ayushgupta](#)  
Twitter:// [@ayushabg](#)  
Quora:// [Ayush-Gupta](#)

### LINKS

## POSITIONS

Student Publication IITD  
Technical Editor  
Alumni Association  
Content Executive  
HINDI SAMITI  
Hostel Representative

## EXPERIENCE

### LOUGHBOROUGH UNIVERSITY | SUMMER RESEARCH INTERN

May 2016 - July 2016 | Under Prof. Massimiliano Zecca  
Developed Code in Matlab to simulate Human movement in 3D using quaternion data of IMUs to extract meaning from body patterns; Also made code to visually and graphically check the correct calibration of IMU.

## PROJECTS

### MNIST DIGIT CLASSIFIER | TENSORFLOW, SKLEARN, KERAS

Fall 2016 | Prof. Rahul Garg  
Used Convolutional Neural Networks with dropouts in Tensorflow to classify digits with 99.6% accuracy. Augmented Data for training using keras library. Tried methods like SVM on PCA reduced data to improve accuracy.

### NEWS ARTICLES CLASSIFIER | NAIVE BAYES, LAPLACE SMOOTHING

Fall 2015 | Prof. Parag Singla  
Implemented both Multinomial and Bernoulli Naive Bayes in python from scratch (Supervised Learning). Laplace Smoothing was done in both cases; Accuracy of 95% achieved on given dataset.

### COMPILER FOR IMPERATIVE LANGUAGE | LAMDA CALCULUS, SML

Autumn 2016 | Prof. S Arun Kumar  
The compiler had a lexer, parser, AST generator, code generator. Basic library functions were also implemented which could be used by the program and would be used for code generation by the compiler.

### BASIC SEARCH ENGINE | SVD, SCIPY

Fall 2016 | Prof. Rahul Garg  
Implemented Latent Semantic Indexing in python using Singular Value Decomposition for matching similar documents, similar words and returning relevant documents for queries.

### MULTIPLAYER PING PONG GAME | SOCKETS, SWING, PEERS

Spring 2016 | Prof. Vinay Ribeiro  
Implemented a robust Peer to Peer network in Java with protocols to avoid game failure on player disconnection, by seamlessly switching to AI bots when a player left the room. Added intelligent ball tracing bot players.

## SCHOLASTIC ACHIEVEMENTS

2014	Bronze Medal	Asian Physics Olympiad at NUS, Singapore
2014	IITD Merit Award	For being in top 7% of University Students
2014	Rank 2 in India	SCRA examination, UPSC (Government of India)
2013	Top-35 in India	Indian National Chemistry Olympiad (INChO)
2013	Rank 14 in India	KVPY Fellowship, IISc Bangalore

## HACKATHONS & COMPETITIONS

2017	Facebook Hacker Cup	Reached Round 2 of the Competitive Coding Event
2016	Google Apac Test	Ranked 314 among Students in APAC Region
2016	Code Fun Do Microsoft	Developed Game in Unity5 and Visual Studio
2016	Aerobot	Came 1st for designing recursions for Robozzle Puzzle
2015	Nutanix Hackathon	Developed application for lawyers-clients community
2015	Import Frosh	Came 2nd in Coding Competition of CS Freshmen
2015	ACM-ICPC	Received Honorable Mention at Chennai Site