

ALOK KUMAR

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Third Year Mathematics and Computing, Indian Institutes of Technology, Delhi

C-17,Aravali Hostel, **IIT Delhi**, Hauz Khas,New Delhi - 110016, INDIA

ACADEMICS DETAILS

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| ● B.Tech + M.Tech in Maths and Computing
Indian Institutes of Technology Delhi
Cumulative GPA (7.46/10) | <i>Present</i> |
| ● All India Senior Certificate Examination
Jawahar Navodaya Vidyalaya, Kottayam, Kerela, India
(affiliated to CBSE) Percentage: 91.8/100 | <i>2017</i> |
| ● All India Secondary School Examination
Jawahar Navodaya Vidyalaya, Buxar, Bihar, India
(affiliated to CBSE) Cumulative GPA: 10/10 | <i>2015</i> |

SCHOLASTIC ACHIEVEMENTS/AWARDS

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|---|-------------------------|
| ●Ranked in National Top 0.3% (amongst 11,86,000 candidates) in JEE Mains | <i>2017</i> |
| ●Qualified Regional Mathematics Olympiad(RMO) | <i>2014</i> |
| ●Represented Patna Region for Indian National Mathematics Olympiad(INMO) | <i>2014</i> |
| ●Won SAMSUNG Star Scholarship | <i>2017-18, 2018-19</i> |
| ●Selected for PANASONIC Scholarship Program | <i>2017-21</i> |

PROJECTS

1. Mobile Phone Tracking System

Amitabha Bagchi [Department of Computer Science, IIT Delhi]

- Solving simplified version of fundamental problem of cellular networks
- Finding location to establish connection when a phone is called
- Finding the shortest path between the base stations of two phones
- Switching On/Off of a Mobile and keeping tracks of its Base Station

2. Search Engine (Simplified version)

Amitabha Bagchi [Department of Computer Science, IIT Delhi]

- Calculating relevance of collection of webpages with the help of Scoring Function
- Calculating "Probabilistic Relevance", "Term Frequency" and "Inverse Document Frequency" of webpages
- Finding the "most relevant" set of webpages containing desired query according to their relevance order

3. A publish-subscribe Social Platform (Simplified version)

Amitabha Bagchi [Department of Computer Science, IIT Delhi]

- Simplified version of publish-subscribe social platform like Twitter,Instagram
- Includes publishing New Posts, Shared Posts, Comments by users
- Subscribing/UnSubscribing to various users on the platform
- Reading Posts of subscribed publishers according to the recent post preferred the most

4. **A Simple Android App** (*By Self*)

- Uses "Firebase Google Cloud Messaging Platform"
- To Create Customizable Surveys to collect Customer Feedback
- To Submit required documents(responses to various questions)

5. **Hand Written Digit Recognition** (*Machine Learning*)

- Made a multiclass neural network classifier without use of any library
- Implemented *Backpropagation* technique
- Given any image of written digit able to recognise

6. **Vise Clutch-WildCard**

Under set of Professors of **Robotics Club** [IIT Delhi]

- To build a **Manually Controlled Bot** using *Arduino Uno*
- Performs simple tasks of *Gripping Things* and *putting them in Target Zones*

TECHNICAL STRENGTH

- **Computer Languages** :- Java, Matlab, Python, HTML, CSS, Java Script
- **Software Tools** :- Machine Learning, Anaconda, Jupyter Notebook, Autodesk Inventor Pro, Git.
- **GitHub** :- <https://github.com/alokkiitd1729>
- **Others** :- Video Editing, Web Development, Android Emulators, Android Studio.
- Enthusiast in Competitive Coding and solving application based problem

RELEVANT COURSES

Completed - Introduction to Computer Science, Data Structures and Algorithms, Computer Architecture, Optimization Methods and Applications, Probability and Stochastic Process, Discrete Mathematical Structures, Operational Management, Linear Algebra, Digital Electronics, Application of Calculus, Linear Algebra, Theory of Differential Equation, Introduction to Electrical Engineering,

Expected to be Completed by May'20 - Analysis and Design of Algorithm, Cryptography, Machine Learning, Statistical Methods, Computing Laboratory, Functional Analysis, Introduction to Biology for Engineers.

EXTRA-CIRRICULAR

- Former **Robotics Club** representative (IIT Delhi)
- Represented Robotics Club IIT Delhi in **TechFest**-Asia's Largest Science Technology Festival at IIT Bombay in 2017
- Activity Head (Guest Lecture) of **Tryst 2019** (Technical Fest of IIT Delhi)
- Production Executive annual Cultural Festival of IIT Delhi **Rendezvous 2019**