

# Ayush Sharma

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## EDUCATION

### IIT GUWAHATI

BTECH IN MATHEMATICS &  
COMPUTING

Expected May 2019 | Guwahati, India  
Cum. GPA: 8.64 / 10.0 (Current)

### BHAVAN'S VIDYASHRAM

HIGH SCHOOL

May 2015 | Jaipur, India  
Percentage: 91.40% | CBSE

## LINKS

Github:// AShar97

LinkedIn:// ayushsharma97

## COURSEWORK

### UNDERGRADUATE

Probability Theory & Random Processes

Monte Carlo Simulation

Linear Algebra

Financial Engineering - Introduction

Discrete Mathematics

Data Structures & Algorithms + Practicum

Game Theory & Economics

Scientific Computing + Practicum \*

Stochastic Calculus for Finance \*

Operating Systems + Practicum \*

Optimization \*\*

Financial Engineering + Practicum \*\*

Formal Languages & Automata Theory \*\*

Databases + Practicum \*\*

Computer Networks + Practicum \*\*

MOOC (taken adjunct to curriculum):

- Machine Learning (Coursera)

- Deep Learning (Coursera) \*

- Advanced Machine Learning (Coursera) \*\*

\* To be completed in Autumn 2017

\*\* To be completed in Spring 2018

## SKILLS

### PROGRAMMING

C/C++ • Python

### STATISTICAL TOOLS

R • MATLAB \*

### MISCELLANEOUS

LaTeX • Arduino \*

### OPERATING SYSTEMS

Windows • Unix (macOS) • Linux

\* Elementary Proficiency

## PROJECTS

### COLLECTIVE ROBOTICS | ROBOTICS CLUB, IIT GUWAHATI

Ongoing

- Worked with project team to implement a modified version of Particle Swarm Optimization algorithm, for the collaborative searching mechanism, to achieve rendezvous task by the cumulative effort of multiple autonomous robots, functioning independently and without communicating with one another.
- Technology used: Python and Arduino.

### TOY-LANGUAGE INTERPRETER | ACADEMIC PROJECT

April 2017 | Prof. Kalpesh Kapoor

- Implemented an Interpreter for a toy procedural programming language.
- Technology used: Python.

### GENERALIZED EXPONENTIAL DISTRIBUTION

EXTENDED VERSION | ACADEMIC PROJECT

April 2017 | Prof. Arabin Dey

- Implemented a random number generator for an extended version of the generalized exponential distribution in both uni-variate and bi-variate cases.
- Technology used: R.

## ACHIEVEMENTS

### INSTITUTE MERIT SCHOLARSHIP

Awarded Institute Merit Scholarship for securing 1<sup>st</sup> position in the U.G. batch of 2019 (strength 50) of Department of Mathematics, in the academic session 2015-2016.

### JOINT ENTRANCE EXAMINATION 2015

Secured position in the top 0.3% among 1.35 million candidates in the test, required for admissions to IITs.

### KVPY 2014-15

Obtained (qualified for) the National Program for Fellowship in Basic Sciences (for high school students) by securing a position in the top 1% among 50,000 candidates.

### NTSE 2010-11

Obtained (qualified for) the National Talent Search Scholarship by securing a position in top 1,000 candidates.

## EXTRACURRICULARS

### INTRA-BATCH SPORTS COMPETITION

Secured 3<sup>rd</sup> position in the table-tennis event.

### COMMUNITY SERVICE

Tutored high school students, from under-privileged background, in Physical Sciences and Mathematics, on weekends during academic session 2016-17.

### FRESHMEN MENTORSHIP

Mentoring freshmen under Peer Mentoring Programme of Students Welfare Board, IIT Guwahati, during academic session 2017-18.