# Ayush Sharma

B.Tech Mathematics and Computing
Indian Institute of Technology Guwahati

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## EDUCATION

| Degree/Certificate | Institute/Board | CGPA/Percentage | Year |
|---|---|---|---|
| B.Tech. | Indian Institute of Technology, Guwahati | 8.79 (Current) | 2015 - Present |
| Senior Secondary | Central Board of Secondary Education | 91.4% | 2015 |
| Secondary | Central Board of Secondary Education | 10.0 | 2013 |

## PROJECTS

- **Swarm Robotics** *Ongoing*
  *Robotics Club, IIT Guwahati*
  Implemented modified version of Particle Swarm Optimisation 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.
- **Toy-language Interpreter** *Apr 2017*
  *Academic Project*
  Implemented an Interpreter (based on Python) for a toy functional programming language.
- **Transported Generalised Exponential Distributed Random Number** *Apr 2017*
  *Academic Project*
  Implemented a random number generator (based on R) for transported generalised exponential distribution in both univariate and bivariate case.

## TECHNICAL SKILLS

- **Programming languages:** C, Python, R, LaTeX
- **Miscellaneous:** MATLAB *, Arduino *
- **Operating system:** Windows, Linux

** Elementary proficiency*

## ACHIEVEMENTS

- **Department Rank 7:** Ranked 7th in the U.G. batch of 2019 (strength 53) of Department of Mathematics.
- **Institute Merit Scholarship:** Awarded Institute Merit Scholarship for securing 1st position in the U.G. batch of 2019 (strength 53) 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.

## KEY COURSES

- Probability Theory and Random Processes
- Modern Algebra
- Monte Carlo Simulation *
- Introduction to Financial Engineering *
- Data Structures and Algorithms *
- Data Structures Laboratory with Object-Oriented Programming *
- Game Theory and Economics *
- Real and Complex Analysis
- Linear Algebra
- Ordinary and Partial Differential Equations
- Discrete Mathematics
- Economic Theory - Introduction
- Online Courses (taken adjunct to the curriculum)
  1. Machine Learning
  2. Control of Mobile Robots

** To be completed in Spring 2016*