# Ayush Agarwal

Third year Undergraduate,
Computer Science and Engineering,
IIT Kanpur.

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## Education

| Year | Degree | Institute | CPI |
|---|---|---|---|
| 2017(Expected) | B.Tech, Computer Sc. | IIT Kanpur | 8.5/10 |
| 2013 | HSCE | St.Anselm's Sr. Sec. School | 89% |
| 2011 | AISSE | St.Anselm's Sr. Sec. School | 10/10 |

## Achievements

- All India Rank **146** in **JEE**-Advance, 2013.
- **NTSE** and KVPY **Scholar**
- Bronze in **Inter-IIT**(2015) Data Analytics competetion.
- Rank-**1** in International Mathematics Olympiad(IMO) by SOF.
- Among final **35** students selected for **OCSC** Camp for International Physics Olympiad(**IPhO**),2013 .
- Cleared Regional Mathematics Olympiad(**RMO**) and National Standard Examination in Astronomy(**NSEA**).
- Secured AIR-**8** in stage-1 National Science Olympiad(**NSO**) by SOF.
- Secured Rank-**26** in National Science Talent Search Exam (**NSTSE**).
- Secured Rank-**1** in Mathematics Genius Award (State level competition).

## Projects

- **Backend Development and Network Establishment**
  *under Prof. Manindra Agarwal*
  - Developed the backend **Models** and **Api** in **scala** using the **Akka** framework for handling http requests, **Argonaut** for marshalling/unmarshalling of json, and **Slick** for dealing with **PostgresSQL** database.
  - Developed a Cookie based **Stateless** Authentication System.
  - Established a cross host overlay network among **Dockers** in a **CoreOS** cluster using **Weave**.
- **Hotel Recommendation System**
  - Developed a hotel recommendation based on the customer reviews. Wrote python scripts using **BeautifulSoup** to crawl customer review data from tripadvisor. Used this data for **LDA** to assign rankings to the hotels.
- **Portal for Academic Mentor System for Counselling Service,IITK**
  - Developed an online portal for better interaction of Counselling Service and academically deficient students. Used **MVC** architecture from a **Codeignitor** (php-framework).
- **Application on Delaunay Triangulation**
  - A python gui using Scipy, Tkinter, Numpy and OpenCV. Given an image as an input it used to convert it into an image made from very small triangles.

## Relevant Courses

(*)Ongoing Courses

| | | | |
|---|---|---|---|
| **ESC101** | Introduction to Prog. | **ESC201** | Introduction to Electronics |
| **CS210** | Data Structure and Algorithms | **MSO201** | Probability and Statistics |
| **CS201** | Discrete Mathematics | **CS202** | Logic in Computer Science |
| **CS203** | Abstract Algebra | **CS330*** | Operating Systems |
| **CS220** | Computer Organisation | **CS252*** | Computing Lab-II |
| **CS251** | Computing Lab-I | **CS340*** | Theory of Computation |
| **CS345*** | Algorithms - II | **CS653*** | Functional Programming in Haskell |

## Technical Skills

| | |
|---|---|
| **Languages** | Scala, C, C++, Python, Php, Dart |
| | Bash Scripting, Verilog |
| **Platforms** | Linux, CoreOS, Windows |
| **Tools** | Akka, PostgresSQL, Angular, docker, weave, vagrant |
| | Git, Sbt, Octave, HTML, SCSS |

## Position of Responsibility

- **Academic Mentor**, for Counselling Service
- **Web Master**, portals of Counselling Service
- **Secretary**, Animation Club, IITK