

# Himanshu Shekhar

Undergraduate

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## Education

2015–2020 **5 Year Dual Degree B. Tech. IT and M. Tech. Robotics.**

Indian Institute of Information Technology, Allahabad  
CGPA: 8.71 (6 semesters)

2013–2015 **Class XII, CBSE.**

Mathematics with Computer Science  
95.2%, being top 0.1% in Mathematics across country

## Experience

May–July **Backend Intern**, SocialCops.

- 2017 - Built Collect Toolbox, a Pythonic SDK to let developers access data from underlying MongoDB.
- The toolbox provides clean object-oriented API to developers, abstracting complex cross-collection queries as well as benchmarking the expensive ones.
- Built performance report generator for the support team which sends granular report for support metrics as Excel workbook to Slack.
- The report highlighted SLAs, response-time, and other metrics product-wise as well as team-wise to show customers about our support performance and work on bottlenecks.

Apr 2017–Apr **Software Development Coordinator**, Technical Society, IIIT-Allahabad.

- 2018 - Organized workshops, talks and mentor students to start with software development.
- Taught primarily about Linux, Git, REST API, authentication, etc.
- Developed alumni portal for the institute to house profiles, contact information and organize events. The portal was used for first alumni meet in 2017.

## Projects

Jan - May **Intent based Robot Grasping**, Python, Matplotlib, PyTorch, CNN, OpenCV.

- 2018 - Trained a neural network to recognize optimal rectangle to grasp an object.
- Created data-pipeline for optimising memory usage by **lazy-loading training data**.
- Created tool to label rectangles on training images using OpenCV based GUI.
- Worked on four neural network architectures (Linear + CNN) to compare the results.
- Poor performance due to low amount of data.

March 2018 **Speaking Geo-GP Assistant**, NodeJS, MongoDB, Geospatial queries and viz.

- Runner up at Smart India Hackathon 2018, ISRO.
- Built a voice assistant to help policy makers take data-driven decision using geospatial data obtained from satellite imagery.
- Implemented geographical queries and custom queries on geojson using MongoDB.
- The assistant responds back in English, Hindi and Bengali.

March 2018 **Aerially**, NodeJS, Ethereum.

- Runner up at Hack In The North 3.0, IIIT-Allahabad.
- Built a smart-contract platform for airlines to transfer overbooked passengers to alternate flights.
- Each transaction of migrating a passenger is a smart contract between two operators.
- Used Ethereum's eventing mechanism to monitor events.

Dec 2015 - **ProxyMan**, Bash.

- Present
- Lets you configure system-wide proxy settings on Linux.
  - Written in bash and standard POSIX tools, no dependency required.
  - Manages config for GNOME gsettings, bash, apt, dnf, git, npm and Dropbox.
  - Appreciated by community with more than 150+ stars on GitHub and more than 2000 downloads.

Jan 2018 **Dexter**, Python, JavaScript, NLP.

- Won 1st Prize at Hack36, annual hackathon of MNNIT-Allahabad.
- Voice controlled code-editor for the disabled.
- Voice instructions are converted to text and then converted to Python/JavaScript code using Fuzzy logic based NLP parser.
- Entire NLP takes place on the browser in JavaScript.

Oct 2017 **Expedite**, Python, Django, MySQL, ReST API.

- Won first prize at IIIT-Hacks, 2017, IIIT-A's annual internal hackathon.
- Bridging customer issues on social media to customer support.
- Comments/Reviews on social page gets registered on company's CRM.
- Neural Network based classifier classifies and assigns issues to respective support team.

May 2016 - **21Lane**, Python, Qt5, FTP.

- Oct 2016
- Peer to peer, GUI based file sharing software written in Python, Qt5 and pyftplib.
  - Uses FTP to transfer file and data between machines.
  - Implemented bulk file downloader by batching them using worker threads and a task-queue.
  - Feature to search file across all machines by storing names of available files on a central hub.

## Computer skills

Data pipelines, ReSTful services, Benchmarking, Debugging

Confident Python, Golang, JavaScript, C, Bash

Intermediate C++, Java, Matlab/Octave

Tools SQL, MongoDB, Qt5, Django, Flask, Git

Platform Linux

## Positions of responsibility

Mar 2018 - **Student Gymkhana, IIIT-Allahabad.**

Present Senator to the student welfare body

July 2017 - **Nybles, Technical Newsletter of IIIT-A.**

Dec 2017 Web operations, Founding member

April 2016 - **Technical Society, IIIT-Allahabad.**

March 2017 Member, FOSS Society

## Relevant courses taken

Data Structures and Algorithms

Artificial Intelligence

Image Processing

Compiler Design

Computer Networks

Object-Oriented Programming

Linear Algebra

Design and Analysis of Algorithms

Operating Systems

Data Mining

Computer Architecture

Database Management Systems

Optimization Techniques

Convex Optimization