

# Himanshu Shekhar

Pre-final year | Love to build stuff with code

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## Education

2015–2020 **5 Year Dual Degree B. Tech. and M. Tech. in IT.**  
Indian Institute of Information Technology, Allahabad  
CGPA: 8.89 (8 semesters)

## Experience

- May 2019 - **Software Engineering Intern**, Sumo Logic.  
Present
  - Worked with ingestion team to annotate logs with EC2 instance information and tags.
  - The additional fields shall help the users to perform more powerful queries based on instance metadata.
  - Learned about architecture of cloud-based distributed systems and petabyte-scale data ingestion.
- March 2019 - **Co-investigator**, ISRO Remote Sensing Institute.  
Present
  - Developed Speaking Geo GP Assistant - a voice-based Android assistant to help Gram Panchayats with planning using geospatial data from ISRO
  - Runner-up at Smart India Hackathon, 2018. Development extended to productize it.
  - Implemented a Django API over PostGIS, along with integrating a NLP parser for voice queries.
- December 2018 **Backend Intern**, SocialCops.
  - Dockerized all (18) microservices of Collect - a mobile data-collection app, easing local setup and on-prem deployments on single click via docker-compose.
  - Optimized older Dockerfiles for dependencies, bringing down build size and build time by 80%.
- May–July 2017 **Backend Intern**, SocialCops.
  - Built Collect Toolbox - a Python SDK to abstract complex queries and ease day to day related chores.
  - Built a performance reporting tool for the support team which sends an Excel report weekly on Slack.
- Apr 2017–Apr 2018 **Software Development Coordinator**, Technical Society, IIIT-Allahabad.
  - Organized workshops, talks and mentored students to get started 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 2018 **Intent based Robot Grasping**, Python, Matplotlib, PyTorch, OpenCV.
  - Paper presented at IEEE IACC 2018.
  - Preparatory work to recognize optimal rectangle for object grasping by a robotic arm.
  - Created data-pipeline to optimize memory usage in PyTorch by **lazy-loading training data**.
  - Created tools to label rectangles on training images using OpenCV based GUI.
- March 2018 **Speaking Geo-GP Assistant**, NodeJS, MongoDB, Geospatial queries and viz.
  - Runner up at Smart India Hackathon 2018, ISRO. Ongoing project with ISRO IIRS.
  - Built a voice assistant to help policy makers take data-driven decision based on geographical data.
  - Implemented geospatial queries and a ReST API using NodeJS and MongoDB.
- 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.
  - Used Ethereum's eventing mechanism to monitor events.

Dec 2015 - **ProxyMan**, Bash.

- Present
- Lets you configure system-wide proxy settings on Linux.
  - Configures GNOME gsettings, bash, apt, dnf, git, npm, docker, Dropbox proxy settings.
  - Appreciated by community with more than 300+ stars on GitHub and used widely at IIITA.

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

- Winner at Hack36, annual hackathon of MNNIT-Allahabad.
- Voice controlled code-editor for the disabled.
- Uses Fuzzy logic based NLP parser to convert voice to Python/Javascript code using Chrome Speech Recognition API.

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

- Winner 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.
- Machine learning 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.
  - Mimics bittorrent with a central hub acting as tracker.

## Computer skills

Data pipelines, ReSTful services, Benchmarking, Debugging

Confident Python, Golang, Java, Scala, JavaScript, C, Bash

Intermediate C++, Matlab/Octave

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

Platform Linux, AWS

## Positions of responsibility

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

Feb 2019 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

Distributed Systems

Artificial Intelligence

Artificial Life Simulation

Image Processing

Compiler Design

Computer Networks

Object-Oriented Programming

Linear Algebra

Data Structures and Algorithms

Operating Systems

Soft Computing

Data Mining

Computer Architecture

Database Management Systems

Optimization Techniques

Convex Optimization