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 2017   **Backend Intern**, SocialCops.
- 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 2018   **Software Development Coordinator**, Technical Society, IIIT-Allahabad.
- Organized workshops and talks to help students start with software development.
- Mentored juniors to understand the basics of web-development.
- Developed alumni portal for the institute to manage profiles and organize events to connect with them.

Projects

Jan - May 2018   **Intent based Robot Grasping**, Python, Matplotlib, PyTorch, CNN, OpenCV.
- 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 - Present	**ProxyMan**, Bash.
	○ 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 - Oct 2016	**21Lane**, Python, Qt5, FTP.
	○ Peer to peer, GUI based file sharing software written in Python, Qt5 and pyftpdlib.
	○ 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 - Present	**Student Gymkhana, IIIT-Allahabad**.
	Senator to the student welfare body
July 2017 - Dec 2017	**Nybles, Technical Newsletter of IIIT-A**.
	Web operations, Founding member
April 2016 - March 2017	**Technical Society, IIIT-Allahabad**.
	Member, FOSS Society

Relevant courses taken

Data Structures and Algorithms	Design and Analysis of Algorithms
Artificial Intelligence	Operating Systems
Image Processing	Data Mining
Compiler Design	Computer Architecture
Computer Networks	Database Management Systems
Object-Oriented Programming	Optimization Techniques
Linear Algebra	Convex Optimization