

# Mayank Sharma

UNDERGRADUATE · COMPUTER SCIENCE AND ENGINEERING

Indian Institute of Technology, Kanpur

☎ (+91) 9461240034 | ✉ msharma@iitk.ac.in | ✉ mayank8019@gmail.com | 🏠 mayanksha.me | 📷 mayanksha | 📺 mayanksha

## Educational Qualifications

Year	Degree	Institution(Board)	CGPA/%
July'16 – Present	B.Tech, CSE	Indian Institute of Technology, Kanpur	6.6/10.0
2016	AISSE – XII	Central Academy Sr. Sec. School, Chittorgarh	92.0%
2014	CBSE – X	Central Academy Sr. Sec. School, Chittorgarh	10.0/10.0

## Academic Achievements

- 2016 **All India Rank 630**, JEE Advanced 2016 among 200 thousand selected candidates.
- 2016 **All India Rank 2237**, JEE Mains 2016 among 1.2 million candidates.
- 2015 **All India Rank 854**, KVPY Fellowship Award awarded by Department of Science and Technology, India.
- 2016 **State Top 1 percentile**, National Standard Examination in Physics
- 2012 **All India Rank 1707**, National Science Talent Search Examination among 3.2+ Lakh applicants.

## Projects

### ABU RoboCon 2018, Shuttlecock throwing Robots

IIT Kanpur

MEMBER, TEAM ROBOCON IIT KANPUR, PROF. ASHISH DUTTA

ongoing

- Working on an Autonomous Robot capable of playing *ném còn* (Vietnamese Game, literally, throwing Shuttlecock).
- Using an Intel Realsense Depth Camera for 3D image processing to detect the Shuttlecock.
- Attempted ball-tracking by means of CamShift and Optical Flow (surrounding restrictions, hence shifted to stereo imaging) in OpenCV.
- Collaborated in the designing and making of Manual Robot which hands Shuttlecocks to Autonomous Robot.

### Linux from Scratch

IIT Kanpur

ASSOCIATION OF COMPUTING ACTIVITIES

2nd Semester

- Developed a Student Search in bash which scraped data from Office Automation Portal of IITK.
- Used the ZeromQ library in python to implement client server model to
- Familiarised with Shell Utilities, Linux Architecture, Bootloaders, etc.
- Created a bootable (SysVinit based) bare-bones linux distribution, compiling packages from tarballs, building upon the host system kernel and finally compiling the kernel for new distro.
- Created Scripts in NodeJS and Javascript to fetch all the BLFS Packages along with their installation commands, storing them as JSON files.

### The Automatic Stamper

IIT Kanpur

TA-201 GROUP PROJECT

3rd Semester

- Worked on a stamper, which if connected to a motor could stamp four times in one revolution.
- Used the Geneva Mechanism and Chain & Sprocket Mechanism to drive the stamper.
- Used the mechanical processes of Casting, Brazing, Welding and Sheet Metal Forming to build it.

## Relevant Courses and MOOCs

Introduction to Programming	Discrete Mathematics	Logic in Computer Science
Abstract Algebra	Numerical Methods & Approximations	Mathematics I
Mathematics II	Machine Learning by Andrew NG (Coursera)	CS 229 (ML by Andrew NG) Stanford (i)
Data Structures & Algorithms (i)		

i: In progress

## Skills

<b>Programming</b>	C++, Python, C, Javascript and Typescript, Bash Scripting, MATLAB
<b>Web</b>	Angular2, Express.js with Node.js, MongoDB (Mongoose as ODM)
<b>Tools &amp; Libraries</b>	OpenCV, SciPy, Git, $\LaTeX$ , Vim, AutoCAD
<b>Operating Systems</b>	Linux (Arch, Ubuntu & LFS), Windows

## Positions of Responsibility

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- **Senior Executive, Web, Entrepreneurship Cell :** Setup Two forms which posted their responses to an express server hosted on an EC2 Instance.
- **Webmaster, Hall5 :** Redesigned the website from scratch based on its Pool Theme - Mughals.
- **Core Team Member, Vox Populi :** Actively contributed towards writing of articles for the Institute Journalism Body.

## Interests

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- Linux System Administration and Automation
- Image Processing and Computer Vision
- Machine Learning and Data Science
- Web Development

## Miscellaneous

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- **YouTube Search Web App :** A YouTube search suggestion app written in Angular 2 using rxJS library with the YouTube API.
- **Reddit-like Community App (anonymous posting) :**
  - Made as a part of learning Angular2 for better understanding of interaction of Components and Services.
  - Used Angular2Material and FlexLayout as a responsive material design framework.
- **Personal Portfolio Page :** Used an EC2 Instance to host the personal portfolio page. (Link : <http://mayanksha.me>)

## Extracurriculars & Hobbies

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- Lead an active lifestyle, regularly hitting the gym and lost 20 Kgs weight in the first year.
- Was part of School Basketball Team playing at District Level.