

Mayank Sharma

UNDERGRADUATE · COMPUTER SCIENCE AND ENGINEERING

Indian Institute of Technology, Kanpur

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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 ZermQ library in python to implement client server model to play Collatz Conjecture Game.
- 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

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

Positions of Responsibility

- **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

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

Miscellaneous

- **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

- 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.