# NAVODIT CHANDRA

Final Year Undergraduate
Indian Institute of Technology Kanpur
Major: Mechanical Engineering

Phone: +(91)9453001199
Email: navodit@iitk.ac.in
Homepage: http://navoditc.github.io/

## EDUCATIONAL QUALIFICATIONS

| Year | Degree/Certificate | Institute/School | CGPA/% |
|---|---|---|---|
| 2017-Present | B.Tech. Mechanical Engineering<br>Minor: Controls | Indian Institute of Technology, Kanpur | 9.0/10 |
| 2017 | Class XII, Indian School Certificate (ISC) | City Montessori School, Lucknow | 97.25% |
| 2015 | Class X, Indian Certificate School Education (ICSE) | La Martiniere College, Lucknow | 97.80% |

## SCHOLASTIC ACHIEVEMENTS

- Secured rank 1458 out of 1,200,000 candidates in JEE(MAINS) 2017
- Secured rank 4919 out of 150,000 candidates in JEE(ADVANCED) 2017
- Awarded the Students-Undergraduate Research and Graduate Excellence (SURGE) fellowship at IITK - 2019
- Presented a research paper at the 25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference, 2019 held at IIT Roorkee, India
- Selected for the National Talent Search Examination (NTSE) Fellowship award (Class X) conducted by the National Council of Educational Research and Training (NCERT), New Delhi
- Selected for the Kishore Vaigyanik Protasahan Yojana (KVPY) Fellowship Program under the SA-stream (Class XI) implemented by Indian Institute of Science (IISc), Bangalore
- Qualified the NSEP (National Standard Examination in Physics) - 2016 conducted by the IAPT (Indian Association of Physics Teachers) being among the state-wise top 1% candidates
- Qualified the NSEC (National Standard Examination in Chemistry) - 2016 being among the nation-wise top 1% candidates
- Awarded A* grade for exceptional performance in the course “Robot Motion Planning”

## STANDARDIZED TEST SCORES

- GRE - 325/340 (V-155, Q-170)
- TOEFL - 109/120

## KEY PROJECTS UNDERTAKEN

### STUDY OF WATER MANAGEMENT IN PEM FUEL CELL GAS CHANNELS USING LATTICE BOLTZMANN METHOD

*Mentor: Dr. Malay Das, Department of Mechanical Engineering, IIT Kanpur* May’19-July’19

- Carried out 3D simulations of liquid water transport in flow channels using multicomponent multiphase lattice Boltzmann method,
- Studied the effect of variation of gas inlet velocity, operating current, surface wettability and capillary number on the changes in the water removal rate and energy lost in the flow channels.

Submitted a research paper in the proceedings of 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019)

### ENGINEERING DESIGN AND GRAPHICS-PENDULUM CLOCK July’18-Nov’18

*Mentor: Dr. Anupam Saxena, Department of Mechanical Engineering, IIT Kanpur (Course Project)*

- Prepared the part-drawings and the sub-assemblies of the gear train involved in the working of the clock
- Prepared the assembly drawing of the clock in accordance with engineering norms

### MAUFACTURING PROCESSES-MILITARY TANK July’18-Nov’18

*Mentor: Dr. Sudhanshu Shekhar Singh, Department of Material Sciences and Engineering, IIT Kanpur (Course Project)*

- Worked in a team of six people and came up with the model of an army tank
- Designed and fabricated a downsized model of a main battle tank equipped with anti-mine rollers using the processes of welding, brazing, casting and sheet-metal operations

**MANUFACTURING PROCESSES-STEERING AND DIFFERENTIAL MECHANISMS** Jan'19-Apr'19

*Mentor: Dr. Shantanu Bhattacharya, Department of Mechanical Engineering, IIT Kanpur (Course Project)*

- Incorporated the four bar linkage mechanism on the front part of the chassis and differential mechanism on the rear part with manual transmission of power
- Gained hands on experience in the processes of turning, milling, drilling and CNC

**SKETCHING BUDDY** May'18-June'18

*Robotics Club: IIT Kanpur*

- Member of the software team of a group project comprising nine people
- Contributed in developing the Arduino code for a CNC based drawing machine which was capable of making the drawing of digits, letters etc. provided as input by means of web-based CAM program, MakerCam

## RELEVANT COURSEWORK

| | | |
|---|---|---|
| Fundamentals of Computing | Introduction to Electronics | Introduction to Electrical Engineering |
| Dynamics | Vibration and Control | Robot Manipulators: Dynamics and Control |
| Robot Motion Planning | Signals and Systems* | Basics of Modern Control Systems* |

**Fall 20 (Ongoing)*

## MOOCs (MAY-JULY 2020)

- Control of Mobile Robots Certificate
- Machine learning Certificate
- Deep Learning Specialization Certificate

## RELEVANT SKILLS

Tools: Autocad, Autodesk Inventor, MATLAB, NumPy, ROS, LaTeX

Programming Languages: C/C++, Java, Python

## MISCELLANEOUS

- State level badminton player during school time and won zonal level matches
- Participated in Sci-tech summer camp organised at IIT Kanpur and was awarded a certificate of appreciation by Robotics Club for being a member of the project 'Sketching Buddy'
- Participated in regional mental arithmetic competitions and was declared runner up and champion during the two years of training
- Trained and disciplined in National Cadet Corps (NCC), IIT Kanpur for a year

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