# Shruti Joshi

3rd Year Undergraduate
Indian Institute of Technology Kanpur

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## Education

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|---|---|---|
| June 2019* | B.Tech in Electrical Engineering, IIT Kanpur | **8.8/10.0** |
| April 2015 | Class XII, (HSC, Maharashtra) SRP Junior College, Mumbai | **94.0%** |
| April 2013 | Class X, (CBSE) AECS-2, Mumbai | **98.6%** |

*(\* Expected)*

## Academic Achievements

- **All India Rank 2659** in Joint Entrance Exam (Advanced), 2015 among 150,000 candidates. *2015*
- Secured **99.50 percentile** in JEE Mains out of 1.3 million students. *2015*
- Selected for the prestigious **KVPY** (Kishore Vaigyanik Protsahan Yojana) scholarship. *2015*
- Scored **408/450 in BITSAT** conducted by the Birla Institute of Technology. *2015*
- Awarded Merit Certificate for excellency in **National Standard Examination in Chemistry.** *2015*

## Ongoing Projects

- **Planning Energy Efficient Trajectories** *Dec'17-Present*
  *Mentor: Prof. Ketan Rajawat, IIT Kanpur*
  - Working on a new approach to energy efficient motion planning in environments with strong and uncertain disturbances, with a mobile target in an integrated online framework.

## Projects Undertaken

- **Integration of Long Term Contract and Spot Market in Capacity Markets** *May'17-July'17*
  *Mentor: Prof. Amar Sapra, IIM Bangalore*
  - Worked on a resource allocation problem for optimizing integrated contracts, and formulated its dynamically programmed model.
  - Created a model for optimization of storage, processing and additional processing in a cooperative organization.
  - Performed case studies on Supply Chain Management and Price & Revenue Optimization.
- **Robotics Club Projects, Science & Technology Council, IITK** *Dec'15-June'16*
  - Worked on motion planning and obstacle detection using image processing, and ultrasonic sensors of a biped.
  - Developed a glove for gesture to speech recognition and helped in the development of a chat app on the institute server for the user to chat directly through gestures.(Awarded **Silver Medal** in Hardware Modelling at the **4th Inter IIT Techmeet**, Mandi and the **first position** in **Techkriti Innovation Challenge** at Techkriti 16, IITK).
  - Worked on obstacle detection, face recognition and line following using image processing. Awarded the **Best Overall Summer Project** by the Science & Technology Council, IITK.
- **Spatio-Temporal Data Interpolation** *Aug'16-May'17*
  *Mentor: Prof. Bharat Lohani, IIT K*
  - Worked on improving the framework for selecting the best interpolation technique for a given dataset obtained through crowd sourcing. Implemented RANSAC algorithm for reading LiDAR measurements and detecting planes in the point cloud data.

## Relevant Coursework

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|---|---|
| Fundamentals of Computing | Applications of Probability & Statistics |
| Linear Algebra & Ordinary Differential Equations | Introduction to Real Analysis |
| Partial Differential Equations | Complex Analysis |
| Signals, Systems & Networks | Digital Electronics |
| Introduction to Sampling Theory | Control Systems* |
| Computational Cognitive Science* | Microelectronics* |
| Communication Systems* | Stochastic Geometry & Modern Wireless Networks* |
| Introduction to Game Theory** | Principles of Communication** |
| Introduction to Machine Learning** | Data Structures & Algorithms** |
| Convex Optimization** | Artificial Intelligence** |

(*)*Spring '18 Semester.*
(**)*Audited.*

## Technical Skills

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| **Languages:** | C/C++, Python, Javascript, HTML, CSS, Verilog, Shell Scripting |
| **Tools:** | MATLAB, Git, Vim, LaTeX, Microwind, SolidWorks, Amazon EC2 |

## Positions of Responsibility

- Served as an **Academic Mentor** for teaching and counselling first year undergrads in Mechanics. *2016-17*
- Served as a **Secretory** at Robotics Club, IIT Kanpur *2016-17*
- **Editor**, Writer & Correspondent for the campus journalism body, Vox Populi *2016-17*

## Extra-Curricular Activities

- Awarded the runners-up position at the **Facebook** Hackathon on Countering Violent Extremism held at Kochi. *2017*
- Awarded the 2nd Runners-up position in the **M.R Pai Memorial** Elocution Competition, Mumbai. *2013*
- Actively participated as a Star Correspondent for *'nie'*, the student edition of **The Times of India** among a group of 30 members in Mumbai. *2012-13*
- Awarded the 1st Runner-up at Spellinc Mumbai Finale Competition. *2012*
- Completed till *2nd Kyu, Karate* under the Shito-Ryu Foundation. *2011*
- Represented school in Basketball and Lawn Tennis tournaments at the Intra and Inter City Levels. *2008-11*