

# Rohit Gupta

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## Education

### Indian Institute of Technology Kanpur

Kanpur, India

MASTER OF TECHNOLOGY, MECHANICAL ENGINEERING **CPI: 8.0/10.0**

2018 - 2019

BACHELOR OF TECHNOLOGY, MECHANICAL ENGINEERING **CPI: 7.7/10.0**

2014 - 2018

### Aggarsain Public School

Kurukshetra, India

CLASS XII, CENTRAL BOARD OF SECONDARY EDUCATION **PERCENTAGE: 90.8%**

2013 - 2014

## Scholastic Achievements

2014 **All India Rank 946**, Joint Entrance Exam Advanced, 150,000 candidates

India

2014 **National Top 1%**, National Standard Examination in Astronomy (NSEA)

India

## Work Experience

### Controls Engineer EATON INDIA INNOVATION CENTRE

Mar. 2021 - Present

- Developed and tested control software for EATON TCM for Proterra, HMC, Kensworth, FAW.
- Implemented some key features such as hill hold, Anti-Lock Braking System.
- Application softwares used: Matlab Simulink, Vector Canape, Vector Canalyzer

### Structural Engineer EATON INDIA INNOVATION CENTRE

Aug. 2019 - Feb. 2021

- Supported electrical portfolio of the company as design analyst. Tools Used: Ansys Mechanical, Spaceclaim
- Automated the preprocessing part of the structural analysis leading to a 10x efficiency improvement.
- Worked on multi-physics analysis like Short Circuit (EMag-Structural), Wind Load (Fluid-Structural) etc.

## Master's Thesis

### Modelling natural structures GUIDE: DR. SUMIT BASU

May 2018 - Jun. 2019

- Objective: To obtain mechanical model of natural structure as a result of structural optimization applied to constituent materials under given constraints of loading and boundary conditions
- Implemented Method of Moving Asymptotes algorithm in MATLAB for topology optimization
- Designing FEM routine for evaluation of structures generated in each optimization step
- Developing pipeline to generate topologically optimum structure satisfying given constraints

## Projects

### Multi-Task Learning for NLP tasks TERM PROJECT, MENTOR: PROF. HARISH KARNICK

Jan. 2018 - Apr. 2018

- Developed a deep neural network capable of learning from POS & Chunking tasks.
- Implemented MTL on existing networks by introducing sharing matrix between 2 different task specific network.

### ModAV: Modular Aerial Vehicle B.TECH PROJECT, MENTOR: PROF. ASHISH DUTTA

Jul. 2017 - Apr. 2018

- Build modular UAV (different configuration like quadrotor, hexacopter) inspired by DFA project at ETH Zürich
- Designed autonomous docking mechanism for joining the 4 rotor units to 1 control unit
- PX4 autopilot on-board Pixhawk flight controller was used for autonomous navigation
- Proposed method for autonomous landing and take off by adding mono color camera and laser

### Stock Market Prediction COURSE PROJECT, PROF. PURUSHOTTAM KAR

Jul. 2017 - Nov. 2017

- Fore-casted the variations of a given market [NASDAQ Composite Index] with 62% accuracy
- Incorporated NIKKEI, RUSSELL and WILSHIRE indices, along with FOREX rates into the feature set for model
- Predicted the values as +ve/-ve using Weighted Voting Ensemble of ARIMA, Kernel SVM and Neural Network

### Twitter Mood Visualization SUMMER PROJECT, ELECTRONICS CLUB

May 2015 - Jun. 2015

- Created a dynamic art model for generating artistic pattern using different colored sand describing mood of twitter
- Tweets obtained using Twitter API were classified by Naive Bayes Classifier into different emotion-type.
- Arduino controlled servo motors which pour the sand corresponding to current emotion to create patterns

## Courses

IBM Machine Learning Specialization (Coursera)

Robot Motion Planning

Probabilistic Mobile Robotics

Computer Systems Security

Multi-agent systems

Mechatronics

Data Structures & Algorithms

Intro to Machine Learning

Natural Language Processing

Linear Algebra

## Positions of Responsibility

### SPoC, AUPTIKS EIIC

Sep. 2019 - Dec. 2020

- Conducted Annual Photography Contest for the employees at the country level.
- Organized photography workshop and drive participation in the EIIC Got Talent.

### Book Master, Gymkhana Library PRESIDENTIAL COUNCIL

May 2016 - Apr. 2017

- Led a team of 8 individuals to ensure proper functioning of the library.

### Astronomy Event Coordinator TECHKRITI'16

Jan 2016 - Mar. 2016

- Coordinated all the astronomy events like Astro Quiz, WhatsUp etc. in Techkriti'16

## Extra Curricular Achievements

2017 **2nd Prize**, Astro Quiz, Techkriti'17

IIT Kanpur

2015 **German Language**, A Grade, Level 1

IIT Kanpur

2015 **Secretary, Association ME**, Managed the conduct of Freshers' night of Y15 ME dept.

IIT Kanpur