

Rohit Gupta

☎ (+91) 86049-26292 | ✉ rohitgu974@gmail.com | 🌐 rohitgupta.ml | 📷 rohitgpt

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

Selected 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 different related tasks
- Implemented MTL on existing networks by introducing sharing matrix between 2 different task specific network
- POS & Chunking tasks were learned simultaneously with parameter sharing with improved accuracy

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

RGB-D SLAM TERM PROJECT, MENTOR: DR. GAURAV PANDEY Jan. 2017 - Apr. 2017

- Improved the accuracy and robustness of SLAM method using planar point features to accurately align point features
- Techniques used: SURF feature extraction, RANSAC, Loop Closure detection, Graph optimization

Artificial Stock Market Simulation COURSE PROJECT, MENTOR: DR. HARISH KARNICK Jan. 2017 - Apr. 2017

- Simulated stock market based on 5 different type of agents each having different strategies for maximizing payoffs
- Some agents learn over time & get better at predicting the stock market while other continue to use same strategies
- Model accounts for various financial parameters such as bank interest rates, dividends etc

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

Relevant Courses

Machine Learning	Probabilistic Mobile Robotics	Computer Systems Securities
Robot Motion Planning	Mechatronics	Data Structures & Algorithms
Multi-agent systems	Natural Language Processing	Linear Algebra

Technical Skills

Languages & Libraries: C/C++, Python, Java, Javascript, Keras, OpenCV, TensorFlow

Softwares: Abaqus, Matlab, AutoCAD, AutoDesk Inventer, \LaTeX , GDB, Vim

Operating Systems Kali Linux, Ubuntu, Windows

Master's Thesis

Modelling natural structures GUIDE: DR. SUMIT BASU May 2018 - Present

- Objective: To obtain mechanical model of natural structure as a result of structural optimization applied to constituent materials under given constraints of loading and boundry 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

Position of Responsibility

Book Master, Gymkhanna Library PRESIDENTIAL COUNCIL May 2016 - Apr. 2017

- Led a team of 8 secretaries to ensure proper working of the library
- Administered a budget of 35K and maintained a good collection of books

Teaching Assistant DYNAMICS, ES0209A Jul. 2018 - Present

- Conducted Tutorials and quizzes for the class for 220+ students

Astronomy Event Coordinator TECHKRITI'16 Jan 2016 - Mar. 2016

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

Extracurricular Activity

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