

Educational Qualifications

Year	Degree/Certificate	Institute	CGPA/%
2022	B.Tech	Indian Institute of Technology Kanpur	8.25/10
2018	CBSE – XII	Kautilya Sr. Sec. School, Kota	89.8%
2016	ICSE – X	St. Peter's College, Agra	95.3%

Honors and Achievements

- Secured 1st position in the **FinFest Pan IIT Equity Portfolio Management** competition 2021 with **1000+** participants
- Secured 1st position in **Stock the Stock** competition 2020 by Entrepreneurship Cell, IIT Kanpur with **150+** participants
- Amongst **Top 3** in Round 1 and Overall **Top 30** in **Data Science Hackathon** organised by **Trell** with **2000+** participants
- Secured **All India Rank 1981** in **JEE Advanced 2018** amongst 160,000 shortlisted candidates

Professional Experience

KPIT Technologies | Data Science Intern

May'21 - Jul'21

Objective	• Deliver an unsupervised Anomaly Detection model for real time health monitoring of the engine oil
Strategy	• Applied LOWESS smoothing on the data of 16 sensors to remove noise and increase efficiency of algorithms • Performed unsupervised feature selection using Deep Neural Network and bountiful visualizations • Developed temporal probabilistic failure prediction model using Autoencoders with <10% false alarm
Impact	• Achieved 85% recall on predicting anomalies in engine oil cycle and <5% reconstruction error mean

Research Experience

Changing the Game: The Rise of Sports Analytics (Mentor: Prof. Faiz Hamid)

Jan'21 - Aug'21

Research paper going to be published in *Journal of Sports Sciences*

- Reviewed work in **sports analytics** for **decision making** and applied **PageRank** algorithm to critically analyze **16** papers
- Employed **Network analysis** on bibliometric data of **127 research papers** to investigate the emerging areas of interest
- Explored **State-of-the-Art** techniques in Football analytics and studied the past 20 years trend with **stacked histogram**

Key Projects

Tweet Sentiment Extraction (Science and Technology Council, IIT Kanpur)

May'20 - Jul'20

- Built **NLP model** which takes tweet and sentiment as input and outputs part of the tweet which represents that sentiment
- Performed **Exploratory Data Analysis** and stacked **5 layers** on top of **RoBERTa** to increase robustness of the model
- Integrated a **5-fold cross validation** using **stratified** sampling to reduce overfitting and accomplished **0.715 jaccard score**

Autonomous Underwater Vehicle (Mentor: Prof. Indranil Saha)

May'19 - Mar'20

- Designed **detection** and **tracking** algorithm to detect complex objects and its center under water using **OpenCV** library
- Created **multi-class labelled underwater dataset** for training the State-of-the-Art real time object detection system
- Tweaked the vision layer in the codebase to complete **image processing** tasks meticulously while improving its robustness

Self-Driving Vehicle Simulation (Mentor: Prof. Venkatesan Kanagaraj)

Jan'20 - May'20

- Pre-processed the **point cloud** data, collected by Velodyne's Puck lidar sensor(VLP-16), in MATLAB to remove invalid points
- Implemented algorithm to differentiate ground points while getting bounding boxes of different objects by **DBSCAN** algorithm

Playing Atari with Reinforcement Learning (Science and Technology Council, IIT Kanpur)

May'20 - Jul'20

- Implemented **reinforcement learning** model to autonomously play Breakout game using raw pixels of current state as input
- Incorporated **experience replay** to reduce the **overfitting** and reached human level accuracy with **10+ hours** of training

Skills

Data Science: SQL, Pandas, Numpy, Matplotlib, Keras, Scikit-learn, Tableau | **Robotics:** ROS, OpenCV**Programming Languages:** Python, C, C++ | **Utilities:** Excel, L^AT_EX, MATLAB, Git, Fusion 360

Position of Responsibility

Software Team Head (Team AUV)

Apr'20 - Mar'21

- Spearheaded a team of **7 members** working on Autonomous Vehicle's software, planning and implementing technical changes
- Conducted **recruitment test & interviews** for the new members of the team and handled administrative & managerial tasks
- Organized **regular discussion sessions** with the team to plan and create **directions** to build the software stack from scratch

Relevant Coursework

Introduction to Machine Learning
Applied Probability & StatisticsData Mining & Knowledge Discovery
Computational Methods in EngineeringFundamentals of Programming
Operations Management