SARANSH GUPTA | 17QM30005

QUALITY ENGINEERING DESIGN AND MANUFACTURING (MECHANICAL ENGINEERING VERTICAL)(M.Tech Dual 5Y)

EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2022	M.TECH Dual Degree 5Y	IIT Kharagpur	7.43 / 10
2016	Senior secondary School Examination (10+2)	Rajasthan Board	85.4%
2014	Secondary School Examination	Rajasthan Board	89.5%

INTERNSHIPS AND PROJECTS

Development of a virtual reality based fire training simulator and machine learning based path guidance system: A case of hospital fire breakouts | Dr. J. Maiti | Industrial and Systems Engineering | IIT Kharagpur | Duration: 15/05/2019 - 30/06/2019

- Created virtual environment of a hospital building in **Unity3D,** tested in **oculus-rift** to collect data from human behavior in case of fire.
- Implemented a **Reinforcement Learning** based approach on the train data from human behavior and **show the best path.**
- Methodology of our research can be used for **safe evacuation** and suggesting **new emergency exits** from a building in case of fire.
- **Tools and softwares:** Python, pandas, numPy, C#, UNITY3D, oculus-rift, MS-EXCEL.

Machine Learning model to predict the type of Network Congestion | Inter-hall Technology General Championship | IIT Kharagpur | Duration: 27/01/2019 - 9/02/2019

- Worked in the Visualization of data-set and then making interpretation of trends followed by different variables.
- Implemented SVM, Random-Forest Classifier, Regression, Decision Tree Classifier, **XGBOOST**.
- Implemented Feature Engineering on the train data. Obtained **82.55%** train accuracy, **80.66%** test accuracy, MCC score of **0.742.**
- **Tools and softwares:** Python, Statistics, Tableau, MS-EXCEL, Scikit-learn, MATPLOTLIB, seaborn, Pandas, numPy.

SKILLS AND EXPERTISE

- **Programming Language**: Python, C++, R, C, C#
- **Software and Tools**: Tableau, MATLAB, ANSYS, Solidworks, Unity3D, R-Studio, MATLAB, SOLIDWORKS, Visual Studio, MS-EXCEL

COMPETITION/CONFERENCE

International Conference on Human Interaction & Emerging Technologies: Future Applications | Duration: April 23-25, 2020

- Research Paper on "**Development of a virtual reality based fire training simulator and machine learning based path guidance system: A case of hospital fire breakouts** " will be presented at the 2nd International Conference on Human Interaction & Emerging Technologies: Future Applications to be held at Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland.

Inter-Hall Data-Analytics competition, Azad-Hall, IIT Kharagpur| Date: 10/02/2019

- Our Team stood at **1st position** based on the MCC score obtained and overall **3rd** position out of all participating teams. Awarded with **BRONZE** for the Inter-Hall Data-Analytics General Championship organized by The Technology Students Gymkhana, IIT Kharagpur.

DataBuzz | Shaastra | IIT Madras | Date: 6/01/2020

- Selected through a two staged competetive process consisting of online test followed by the online submission of predictions for the on-campus presentation on 6th Jan, 2020 at **DataBuzz | Shaastra**, the annual Tech and Innovation fair at **IIT Madras.**

Level 2 Qualifiers of Flipkart Grid challenge (online Machine Learning challenge) | Date: 15/03/2019

POSITIONS OF RESPONSIBILITY

IIT KGP Student Mentorship Program (SMP IIT KGP)

- Mentoring four undergraduate students of the same branch under the IIT KGP Student Mentorship Program.
- Responsible for their regular counselling and guidance.

teamKART, IIT Kharagpur | Duration: August 2017 - May 2018

- **Managed** workshop by teamKART, IIT Kharagpur at Jadavpur University on automotive engineering in 2018.
- Convinced companies to sponsor for the workshop.
- Managed the car display event at Alumni-Meet 2018, IIT Kharagpur.
- Contributed in the study of chain-tensioners for the F1 vehicle.

CERTIFICATIONS

Machine Learning by Dr. Andrew ng | Stanford Online | coursera (04/09/2019)

Deep learning specialization by Dr. Andrew ng | DeepLearning.ai | coursera, (03/25/2019)

3D Models for Virtual Reality | University of London | coursera (14/04/2019)

COURSEWORK INFORMATION

- **Department Courses:** Probability and Statistics, Operations and Research, Programming and Data Structures, Optimization and Heuristic Methods.
- **Mooc and Audited Courses**: Machine Learning, Data Analytics, Algorithms in programming, Deep Learning, 3D Simulations and Virtual Reality.

EXTRA CURRICULAR ACTIVITIES

- **Swimmer** at water-polo team of Azad-hall of residence, Inter-hall general championship events,IIT Kharagpur.
- **Presentation** team member of Inter-Hall Gardening competition team at Azad-hall of residence, IIT Kharagpur.
- **Manager** at KHOJ 2018, the annual treasure hunt event conducted by Azad hall, IIT Kharagpur.
- **Volunteer** at Spring Fest, the annual cultural festival of IIT Kharagpur during the session 2017-18

!self declaration by the student