



Rajani Meena
Mechanical Engineering
Indian Institute of Technology Bombay
Specialization: Computer Integrated Manufacturing

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Dual Degree (B.Tech. + M.Tech.)
Gender: Female
DOB: 29/10/2000

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2024	

MASTER'S THESIS

NLP in Artificial Intelligence Endeavour	AbstractAI: Automatic Scientific Paper Abstract Generator Course Project Guide: Professor Asim Tewari Pioneering an advanced and sophisticated formal abstract writer for scientific research papers which utilizes power of LLM ▪ Web scraped 10,000+ diverse scientific papers from Scopus and Arxiv websites for a robust abstract generation system ▪ Fine-tuning with LLM models, Llama v2 and Falcon1 along with the 7B+ parameters for precise scientific paper abstract ▪ Utilizing Reinforcement Learning along with human feedback during model training to achieve significant enhancement	[Jun'23 - Present]
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KEY PROJECTS

Predictive Maintenance	Aircraft Engine Health Prognosis Course Project Guide: Professor Soham Mujumdar Developed specialized model incorporating innovative machine learning algorithm to ensure utmost aircraft engine safety ▪ Implemented feature engineering on the NASA turbofan dataset to analyze the second degree polynomial interactions ▪ Accomplished 0.81 of R-square score using random forest regression and tuned hyper-parameter on validation dataset	[Jan'22 - Apr'22]
Agrotech Solution	Crop Recommendation System For Farmers Course Project Guide: Professor Asim Tewari Devised and Engineered a machine learning system for personalized crop suggestions according to the soil characteristics ▪ Applied various classification algorithms such as Gaussian Naive Bayes, K-nearest neighbour, & support vector machine ▪ Achieved an impressive testing accuracy of 99.3% employed Gaussian Naive Bayes , emphasizing the model's resilience	[Aug'22 - Nov'22]
Materials Research	Polymeric Biomaterial Development Course Project Guide: Professor Alankar Alankar Constructed a precise regression framework that accurately anticipates the Reaction Extent (RAE) for GOx-polymer hybrids ▪ Attained satisfactory R2 score of 0.63 by diligently performing 5-fold cross-validation on the k-nearest neighbour model ▪ Leveraged SHAP(Shapley Additive Explanations) for enhanced feature importance to improve the model interpretability	[Jan'23 - Apr'23]
Design of Experiments	Ultrasonic Machining of Glass Material Course Project Guide: Professor Soham Mujumdar Enhanced machining precision through-hole formation in non-conductive materials using ultrasonic machining techniques ▪ Improved manufacturing process by using ANOVA (Analysis of variance) on categorical variables in ultrasonic machining ▪ Formulated 2³ full factorial setup to investigate the impact of grit size, feed rate, and power on Material Removal Rate	[Jan'23 - Apr'23]

PROFESSIONAL EXPERIENCE

AVN Travels	Market Research Analyst A destination management firm offering comprehensive travel services ▪ Earned a Letter of Recommendation for driving and fostering remarkably strong & successful international partnerships ▪ Extensively researched 15+ potential countries and strategically endorsing Australia as the prime optimal target market ▪ Collaborated in generating a staggering amount of INR 10M revenue within three month through strategic market entry	[May'22 - Aug'22]
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LEADERSHIP AND ORGANIZATIONAL EXPERIENCE

Abhyuday IIT Bombay	Campaigns Manager Visionary social body channelizing youth through impactful social initiatives Leadership Led a proficient 2-tier team of 20+ coordinators Patronages: UNICEF India, UNESCO, PETA Outreach: 5M+ ▪ Spearheaded a one month pan-India campaign 'Sangharsh - Conquering Covid' with UNICEF India achieving 2M+ reach ▪ Liaised actively with Versova Beach Cleanup Campaign, engaging 300+ volunteers to successfully clear 80+ tons of litter ▪ Orchestrated a nationwide plantation drive in collaboration with 6+ NSS & NGOs , involving 300+ individuals in planting	[Apr'21 - Mar'22]
	Key Initiatives & Management Integral part of dynamic 21-member team 7 competitions, 20 events & 150+ campaigns ▪ Collaborated with 3 NGO and Quase organization to provide menstrual hygiene support; distributed 100+ sanitary pads ▪ Targeted 10,000 underprivileged students of 80+ schools to give career guidance with 50% y-o-y growth as a part of CCC ▪ Initiated month-long campaign focused on climate change awareness through competitions, science exhibitions & talks	[Aug'23 - Present]
NCAIR Lab	Teaching Assistant ME-781: Statistical Machine Learning and Data Mining ▪ Coordinated in group of 13 TAs and was responsible for the assessments, grading & counselling of 250+ course students ▪ Mentored 7 teams each consisting of 5 students for ideation/development of machine learning product for final project	[Aug'23 - Present]

EXTRA-CURRICULAR ACTIVITIES

Technical Skills	▪ Languages and Libraries: C++ Python SQL re TensorFlow Pytorch NLTK Sklearn NumPy Pandas Matplotlib ▪ Software and Other: MS Excel MS PowerPoint MS Word Tableau Talend AutoCAD Solid Works MATLAB Git	
International Conference	Organizing Committee Member Applied AI Next Conference, IIT Bombay ▪ Coordinated international keynote speaker & researcher, enriching conference content & fostering global collaboration ▪ Integral part of a 15-membered team that secured sponsorship thus ensuring success & financial viability of conference	[Aug'23 - Present]
Cultural	▪ Showcased mesmerizing Belly dance performance in Annual Institute Dance Show (AIDS) with audience of 2000+ ['23] ▪ Performed theater arts at AnnProd : a flagship event organized by the Dramatics Club , with an audience of 350+ ['22]	
Social Work	▪ Volunteered in cleanup campaign organized by Abhyuday with aim of preserving pristine condition of Powai Lake ['23] ▪ Received a Letter of Recommendation from Prayas NGO for leading Plasma Donation initiatives amid Covid-19 ['21]	
NCC	▪ Successfully completed an year-long NCC Sports Session for Kho-Kho under the guidance of a professional coach ['19] ▪ Participated actively in the first ever girl's contingent during the 71st Republic Day Parade along with 150+ cadets ['20]	