MOHIT YADAV

2600 University Ave SE, Minneapolis, MN, 55414

+1-763-913-7263 | yadav171@umn.edu | www.linkedin.com/in/mohitydv09 | github.com/mohitydv09

EDUCATION

University of Minnesota Twin Cities **Sept 2023 - May 2025(Expected)**
Master of Science in Robotics and Artificial Intelligence (CGPA : 4.0/4.0) Twin Cities, MN
Coursework : Intelligent Robotic Systems | Computer Vision | Robust Control | Artificial Intelligence | Machine Learning

Indian Institute of Technology (Banaras Hindu University) Varanasi **Aug 2014 - May 2018**
Bachelor of Technology in Mechanical Engineering (CGPA : 7.2/10) Varanasi, India

EXPERIENCE

Nuclear Power Corporation of India Limited **Nov 2021 - Aug 2023**
Scientist Mumbai, India

- Worked on design and development of indigenous Fuel Handling Machine capable of remotely handling spent fuel assemblies in the wet type Spent Fuel Storage Facility.
- Designed machine components to meet codal requirements and collaborated with vendors to optimize for manufacturability in India under the national Make in India scheme.
- Provided solutions to Engineering Assistance requests raised by the power plant site for fuel and material handling operations.

Bhabha Atomic Research Center **Jan 2021 - Oct 2021**
Trainee Scientist Mumbai, India

- Received training in advanced mechanical engineering subjects such as Finite Element Method, Computational Fluid Dynamics, Code Design, Mechanics of Solids, and their application in the design of nuclear power plant components.
- Selected as one of the 16 students nationwide for this prestigious 10-month training program, among which I secured a position in top three performing students upon completion of the training program.

TATA Motors Limited **Aug 2018 - Jan 2019**
Engineer Noida, India

- Decreased the time taken to consolidate data received from dealerships of TML by automating the process using Excel, thereby increasing the productivity of the sales team.

ACADEMIC PROJECTS

Real-time Human Pose Imitation on Baxter Robot.[Video] **UMN, Twin Cities**

- Utilized BlazePose for 3D human pose extraction, which was used to calculate essential joint angles to translate the pose on Baxter Robot in KinEval(a ROS like middleware system) simulation environment.
- Established real-time communication via Flask between Python script and KinEval. Implemented proportional controls in KinEval to allow smooth replication of human poses on Simulated Baxter Robot.

AI agent to play the game of Ultimate-Tic-Tac-Toe.[Code][Report] **UMN, Twin Cities**

- Developed a human playable version of Ultimate Tic-Tac-Toe in Python.
- Created AI opponents based on MiniMax algorithm with Alpha-Beta pruning and Monte Carlo search for intelligent decision making.

Development and testing of algorithms for minimal cut set generation. **AERB, Mumbai**

- Developed MOCUS algorithm in Python for event tree analysis of nuclear power plant components.
- Tested the algorithm on various components of a nuclear power plant to determine the risk associated with the failure of a component as a part of Probabilistic Safety Analysis done by Atomic Energy Regulatory Board.

TECHNICAL SKILLS/ CERTIFICATIONS

Programming Languages : Python, C++, Javascript.
Frameworks : PyTorch, Tensorflow, Numpy, Pandas, Sklearn, OpenCV, CVXPY.
Developer Tools : Git, Github, Visual Studio Code, Jupyter Notebook, Google Collab, LaTeX.
Certifications : Algorithms [Cert][Code] | Data Structures [Cert][Code] | Machine Learning [Cert] | Deep Learning [Cert]

AWARDS / EXTRACURRICULAR

- Recipient of Prestigious Merit-Cum-Means scholarship from IIT (BHU), Varanasi.
- Recipient of Honourable Mention from IIT (BHU) Varanasi for contribution to the sport of Volleyball.[Cert]