



ARYABHATTA ARYAN | 20PH20005

2nd Year UG | Department of Physics
Indian Institute of Technology, Kharagpur

EDUCATION

Year	Degree/Exam	Institute
2020 - Present	M.Sc, Physics	Indian Institute of Technology, Kharagpur
2019	Class XII, CBSE	Vivekanand Mission Vidyapeeth, Madhubani
2017	Class X, CBSE	Indian Public School, Madhubani

PROJECTS/RESEARCH

Evolutionary Algorithms and layered learning <ul style="list-style-type: none">Explored Evolutionary Algorithms and layered learningfor training different drills such as walking, dribbling and kickingwhich involves generating params for walk engine	Nov'21
Robo-soccer <ul style="list-style-type: none">Written & Implemented strategies for multi-agent humanoid naobots to play soccer,especially for corner kick play mode.Developed a communication strategy,so that 2 bots can talk (send/receive message to each other) during game play.	Oct'21
Path Planning Algorithms using OpenCV <ul style="list-style-type: none">Have implemented various algorithms like Dijkstra, A*, RRT*-connectfor finding paths from source to destination avoiding colored obstaclesand visualized using OpenCV.	July'21
Turtlesim on Robot Operating System <ul style="list-style-type: none">Have simulated the turtle in turtlesim(ROS) to move on the generated pathusing Proportional-Integral-Derivative (PID) Controller.The turtle must move on a smooth path & avoid any possible collision.	May'21
Automatic Light Switching <ul style="list-style-type: none">An IR Sensor based smart lightning system using Arduinowhich automatically glows when someone enters the room.worked as a team.	June'21
Neural Network for Digit Recognition <ul style="list-style-type: none">Trained a Deep NN for recognizing hand written digits on MNIST Dataset using PyTorchused Linear Regression with non-linear functions like ReLU, Softmax etc.& loss functions like mse, cross_entropy & optimizing algorithms like Gradient Descentachieved a 97% accuracy on test data set	Sept'21

TECHNICAL SKILLS

- Programming Languages:** C, Python, C++
- Frameworks and Libraries:** Numpy, OpenCV, ROS, Git, PyTorch, Matplotlib

RELEVANT COURSES

- Programming and Data structures
- Missing Semester** (OS & Git-Version Control) - MIT
- Deep Learning** - Coursera
- Advanced Calculus & Differential Equations
- Linear algebra, Numerical and Complex analysis
- Probability and Statistics - **Stat 110**

POSITIONS OF RESPONSIBILITY

Societies and Clubs <ul style="list-style-type: none">AI Team Member at Kharagpur RoboSoccer Students' Group (KRSSG)member at Ambar - IIT Kharagpur	2020 - Present
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EXTRA-CURRICULAR ACTIVITIES

- Part of NSO-Health and Fitness in IIT-Kharagpur