

Shlok Mehendale

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🎓 Education

Class 12th 05/2022
Shanti Niketan Vidyapeeth UP, India
CBSE
GPA: 9.3

Class 10th 05/2020
St. Mary's Academy UP, India
ICSE
GPA: 9.74

B.E. Computer Science, M.Sc. Mathematics (Integrated Dual Degree) 2022 - 2027
BITS PILANI (KK BIRLA GOA CAMPUS) GOA, India
CGPA: 8.172
Currently in 3rd Year

📁 Projects

Network Anomaly Detection 06/2024 - present
Undergraduate Research, LTU Sweden
- Working in **Dr. Karan Mitra's** Lab; Supervised by **Dr. Christer Ahlund** and **Dr. Neena Goveas**, CSIS, BITS Goa

Weighted Losses: A Measure Theoretic Approach 04/2024 - present
Undergraduate Research, BITS Pilani (KK Birla Goa Campus)
- Supervised by **Dr. Snehanshu Saha**, APPCAIR Head and **Dr. Rahul Yedida**, North Carolina State University

Confluence of Epidemiological Compartmental Models and Deep Neural Networks 05/2024 - 07/2024
Undergraduate Research, Yale University and BITS Goa
- Extended Summer Project through a Lecture Series on Epi Modeling
- Developing and Testing State-Of-The-Art Deep Learning Algorithms to apply on Epidemiological Models
- Paper implementation of Epi-DNNs (Github Link added above) on Indian Covid-19 Data and a novel SEIRD Model
- Lectured and mentored by **Dr. Abhishek Pandey**, Associate Director (CIDMA), Yale University and **Dr. Anushaya Mohapatra**, BITS Goa

Enhanced Classification using TWSVMs and Neural Networks 01/2024 - 07/2024
Undergraduate Research, BITS Pilani (KK Birla Goa Campus)
- Working on a paper, supervised by **Dr. JK Sahoo**, Former HOD Mathematics, in the field of cutting edge Core Machine Learning and Applications of Twin Support Vector Machines





Autonomous Vehicles

03/2024 - 05/2024

Undergraduate Research, Robotics Lab

- Working in the Robotics Lab, BITS Goa; Supervised by **Prof. Neena Goveas**
- In Collaboration with Moon Lab, IISER Bhopal

Project Kratos

- Explored ROS and applied it to different rigorous robotics assignments; Selected into **The Mars Rover Team** through QSTP co-hosted by Geeks For Geeks  (Induction assignments )
- Implemented **probabilistic mapping**, worked with **point cloud data**, converted it to obtain an **elevation map** of the environment 
- Also implemented various path planning algorithms to find the shortest possible path on Systems on Modules(SoM) such as **Jetson Xavier AGX and Jetson Nano**
- Implemented a Hand Gesture Recognition Model using OpenCV, **Arrow detection, Object detection** such as Hammer, Mallet, Cone model and **ArUco detection algorithm**
- Represented India at the International Rover Challenge (IRC) and grabbed 2nd position in the Autonomous Task 
- Doing a Research Collaboration with **AGH Space Systems, AGH University of Krakow, Poland** (Discussed Knowledge Compression and other Autonomous ideas)

Hand Gesture Recognition Controlled Rover using Deep Learning

Project Kratos, The MARS Rover

- Created and successfully implemented two models, using OpenCV, MediaPipe and other using a LSTM to detect Hand Gestures and move the Mars Rover according to the instructions provided

Designed a Landmine Detection and Extraction Robot

Electronics and Robotics Club (Hackathon)

- Group Project, where I was part of the Autonomous sub-division. Implemented different Path planning algorithms in ROS and Colour Detection using OpenCV

Relevant Coursework

8th CVIT Summer School on AI with focus on Computer Vision and Machine Learning

06/2024

IIIT Hyderabad

- Selected among a very few Undergraduate Researchers, all over India

Linear Algebra and Complex Numbers (Math-2)

Goa, India


BITS PILANI

- Got a 9+/10 and Invited on a project under Dr. Prasanna Kr., HOD Mathematics, BITS Goa on Sendov's Conjecture

Probability and Statistics

Goa, India

BITS PILANI

- This is a compulsory course for UG students in the 1st year
- **Academic(AAP) Mentor ** for this course

OTHER Courses:

Optimization, Computer Programming (BITS Pilani); Machine Learning and Deep Learning Specialization (Stanford University, Deep Learning.AI), CS229, 231n (Online Courses, Stanford University)

Organization

Developers Society

06/2024 - present

Core Member

- Part of the AI/ML Vertical

PathFinders

Founder, Executive Head

- A non-profit organization, formed by the students of BITS Goa to mentor engineering aspirants, solve their academic doubts, and help them boost their preparation in the last phase of their preparation.
- Lead a team of 6 people and connected with amazing people in the EdTech industry.
- Semester-long project; ~45 students got into prestigious institutions such as IITs, NITs and BITS

Academic Experience

TEACHING ASSISTANT, BITS Pilani (KK Birla Goa Campus)

01/2024 -

- 8 Selected from a pool of 200 best performers in the respective courses
- For the course **Mathematics-2(Linear Algebra and Complex Numbers)**

05/2024

Undergraduate Researcher at CDS, IISc (Bangalore)

- Invited for summer internship at NATL Lab under Dr. Ratikanta Behera, Department of Computational and Data Science

Skills

Programming Languages:

Proficient : Python, JAVA, MATLAB

Comfortable : C/C++, HTML

Familiar : SQL, Go, CSS, CUDA

ML/DL Libraries and Frameworks:

PyTorch, TensorFlow, NumPy, Matplotlib, Pandas, OpenCV, MediaPipe, SciKit-Learn, ROS, Keras