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Raghwendra Dey

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Academics

2018-2022	*B.Tech* in **Instrumentation Engg** with **Minor in Computer Science Engg, IIT Kharagpur**
GPA	**8.85**/10.0 (Ongoing)

Projects

Software Team Member, Aerial Robotics Lab, Kharagpur (ARK) — **Guide: Prof. Somesh Kumar**

- Developed and Implemented various algorithms for efficient **localization and Path planning** of drones based on ROS (Robot Operating System).
- Worked on various **computer vision** techniques for effective **detection of shapes and features** in an image.
- Worked on **various controllers** for effective controlling of drones and **obstacle avoidance**.
- Deployed an **ORBSLAM2** based indoor localisation algorithm and **realtime 3D mapping and object detection** using stereo cameras.

Covid-19 Detection using Chest X-Ray Images — **Guide: Prof. Debdoot Sheet**

- DL-based solution for covid-19 detection using chest X-Ray images.
- Implemented a **transfer learning Resnet model** and a **Vanilla CNN model in Pytorch** for covid-19 prediction.

Bengali Digit Recognition — **Guide: Prof. Debdoot Sheet**

- Implemented a **Vanilla CNN Model** for bengali Digit Recognition.
- Used various methods like **Early stopping, Dropout**, etc to **avoid overfitting**.
- Achieved **95.71% test accuracy** and **98.58% training accuracy**, which **shows very less overfitting** of the model.

Flag Detection with Custom Built Dataset

- Implemented a **Vanilla CNN model** for flag detection module of **IMAV-19 Drone competition** and achieved **82% test accuracy**.
- **Built a custom dataset** with images downloaded from internet and **augmented them** to be used for training.

Productivity Meter

- Built a **javascript based app** to measure productivity by **keeping track of small time wastage** which generally goes un-noticed.

Awards & Achievements

- Part of the **GOLD Winning Team** of **IMAV-19 Indoors**(11th International Micro Air Vehicle Competition), among 14 teams from **across 11 countries**, in madrid, spain.
- Successfully qualified **Regional Mathematics Olympiad(RMO)-2016** and was among the **few selected students**(35 in number) in the **whole batch of 9th, 10th and 11th std** from State of Jharkhand, India.

Technical Skills

Languages	C/C++ • Python • Javascript • HTML • CSS • MATLAB
Packages/Tools	Pytorch • Keras • OpenCV • Git • Sklearn • Numpy • Pandas • ROS • Jekyll

Relevant Coursework

Completed	Algorithms-1 (Th+Lab) • Deep Learning Foundations and Applications • Discrete Structures • Probablity and stochastic processes • Deeplearning.ai specialization (Coursera)
OnGoing	Natural Language Processing • Digital Electronics Circuits(Th+Lab)

Positions Of Responsibity

- **Mentor, IEEE Robotics Winter Workshop, 2019**
  Taught a group of **50 First and Second years**, about various **computer vision and Path Planning algorithms**, their use and implementation in **OpenCV**.