Debjoy Saha

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EDUCATION

IIT KHARAGPUR

Btech+Mtech(Dual Degree) in Electronics and Electrical Communication Engg
May 2023 | Kharagpur, India
Cum. GPA (till now): 9.41 / 10.0

KENDRIYA VIDYALAYA

Grad. May 2018| New Delhi, India
Percentage: 97.4%

LINKS

Facebook:// **Debjoy**
Github:// **Debjoy10**
Twitter:// **@Debjoy14**

COURSEWORK

UNDERGRADUATE

Image Processing (CS40019)
Introduction to Digital Speech Processing (ET60007)
Programming and Data Structures (CS11001)
Matrix Algebra (MA20107)

ONLINE

Deeplearning.ai specialisation, Coursera
Introduction to programming in Matlab, Coursera
AI for Robotics, Udacity

SKILLS

PROGRAMMING

Python • C++ • Matlab • C
LaTeX • MySQL • ROS

INTERESTS

Computer Vision • Robotics
Reinforcement Learning • Deep Learning

EXTRA-CURRICULAR

Aspirational Keyboardist
Public Speaker

EXPERIENCE

AERIAL ROBOTICS LAB, KHARAGPUR | Software Team member

February 2019 - Present | IIT Kharagpur

- Developed and implemented various image processing tools for object recognition and image understanding using OpenCV library.
- Did extensive work in optimising optical character recognition using Google's Tesseract OCR library for warehouse inventory management using UAVs.
- Worked on various localisation and mapping algorithms for aerial robots using sensor(LIDAR, camera) data using ROS framework.

WINTER SCHOOL OF AI AND ROBOTICS | Mentor

December 2019 | IIT Kharagpur

- Mentored first and second year students in the Computer Vision workshop under Winter School of AI and Robotics organized by Technology Robotix Society in association with Centre for Artificial Intelligence, IIT Kharagpur and sponsored by IEEE.
- Subjects covered were basic spatial image processing, basics of path planning and blob detection algorithms

PROJECTS AND RESEARCH

11TH INTERNATIONAL MICRO AIR VEHICLE COMPETITION AND CONFERENCE (IMAV)-2019

Aerial Robotics Lab, Kharagpur | Researcher
May 2019 - October 2019 | IIT Kharagpur

Developed a algorithm for autonomous warehouse management using UAVs.

- Developed the OCR tools for accurate detection of alphanumeric codes using google's Tesseract library and QR-codes using Zbar library for inventory management of boxes in a warehouse.
- Devised a traversal algorithm for performing the complete inventory using a drone in minimum time.
- Also developed a low computation algorithm of tracking the position of drone in real-time using multiple coloured frames.
- This project won us the first place in IMAV and a paper on our text detection algorithm was presented at IMAV-2019 conference.

ACHIEVEMENTS

2019	Gold	International Micro Air Vehicle Competition(IMAV-2019)
2018	Gold | Data Analytics	General Championships, IIT Kharagpur
2018	AIR 1155 | National	JEE Advanced-2018
2018	AIR 983 | National	JEE Mains-2018
2018	AIR 452 | National	KVPY-SX fellow
2017	National	RMO(Regional Mathemetics Olympiad) Qualifier
2017	AIR 375 | National	KVPY-SA fellow
2016	National	National Talent Search(NTSE) Awardee
2016	National	Inspire National Science exhibition Awardee

PUBLICATIONS

[1] D. Saha, G. S. B. Udayagiriy, P. Agarwal, B. Ghosh, and S. Kumar. Warehouse management using real-time qr-code and text detection. In P. Campoy, editor, *11^{th} International Micro Air Vehicle Competition and Conference*, number IMAV2019-27, pages 214–221, Madrid, Spain, Sep 2019.