



EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2024	M.TECH Dual Degree 5Y	IIT Kharagpur	7.74 / 10
2019	HSC	Pace Junior Science College	90.47%
2017	SSC	Lourdes High School	95.40%

PROJECTS

Optimizing Bank Lending Decisions using Meta-Heuristic Algorithms | Term Project | Prof. Akhilesh Kumar | IIT Kharagpur

- Developed a meta-heuristic model to maximize bank's profit by optimizing its lending decisions in a credit crunch
- Designed a hybrid approach by amalgamating the concepts of **Simulated Annealing** with **Genetic Algorithms**
- Proposed a **state-of-the-art framework** that optimizes bank objectives when constructing the loan portfolio
- Compared the results of the designed model and generic Genetic Algorithms model based on convergence rate.

Artificial Intelligence Foundations and Application | Centre of Excellence in Artificial Intelligence | IIT Kharagpur

Project :- Multi Electric Vehicle Path Optimisation

- Researched on present scenario of **EV industry** in India and identified 6+ logistical challenges and their solutions using **conflict resolution**.
- Devised an algorithm to find **1000+** optimal paths of EVs by combining **Dijkstra**(to get heuristics) with **A*** algorithm satisfying the constraints.
- Developed a working schedule for path planning of EVs to minimise the maximum time taken to reach the destination by **85%**.

YouTube-Transcript-Summarizer

Developed a chrome extension that produces summary of a YouTube video, with timestamps, in a minute.

- Implemented as a REST service with Flask Server processing the youtube video and Extension rendering summary.
- Produces summary by splitting and summarizing, the transcript from youtube-transcript-api with sumy library.
- Integrated the summary below the youtube video player, making it easily accessible for the user.

Driver Drowsiness Detection Software | Term Project | Prof. Goutam Sen , Department of Industrial & Systems Engineering

- Modelled a software using **OpenCV** to detect drowsiness in drivers by determining the aspect ratio for lips and eyes along with the head pose orientation .
- Utilised the state-of-the-art CNN model,named **Zero-DCE** to illuminate the low light image given to it as an input, and so as to increase its visibility.
- Achieved an accuracy of **61 % , 91% 74%** and **81.15%** for cases of blinking , yawning , mobile detection and head pose detection.

SKILLS AND EXPERTISE

- **Core Competencies:** Programming | Backend Development | Frontend Development | Web Scrapping | Natural Language Processing | Data Science
- **Programming Languages & Databases:** C/C++ | HTML 5 | CSS3 | Javascript | Python | JavaScript | SQL | MongoDB
- **Libraries , Frameworks and Packages:** NodeJs | ReactJs | ExpressJs | jQuery | Mongoose | Bootstrap | NPM | BeautifulSoup
- **Tools:** Git & Github| VSCode | Microsoft Office | CPLEX | MATLAB | Postman | MongoDB Atlas | MySQL WorkBench | Anaconda

COURSEWORK INFORMATION

Programming & Data Structures | Information Systems | Operations Research | Artificial Intelligence : Foundation & Applications | Machine learning : Foundation & Applications | Information Systems | Optimisations and Huristic Methods | Logistics & Supply Chain Management

POSITIONS OF RESPONSIBILITY

General Secretary Alumni Affairs | Azad Hall of Residence | IIT Kharagpur

[Sept 2021 - Present]

Elected amongst 700+ boarder of the hall, as the pioneer to establish amicable interaction between Alumni , Students and the hall administration

- Devised and excuted a 1.5 Year Long timeline & strategize fundraiser campaigns to raise an Alumni Fund of **INR 34.47 Lakhs** for covid assistance to unpaid hall workers
- Succesfully constructed from scratch ,the hall alumni databse of more than **1500+** Alumni graduated in the last 10 years.
- Programmed an auto mailer sing python to send over **2000** personalised e-mails to graduating students and alumni wishing on auspicious occasions.
- Established a social media presence of Azad Hall of Residence and pioneered initiatives like **Humans of Azad , Azadian blog , Azadian Newsletter & Magazine**.

Sub-Editor | Campus Media Body | IIT Kharagpur

[August 2021 - Present]

- Conducted various surveys which garnered over more than **1500+** responses amongst the campus community and worked on preparing well-compiled reports .
- Commended by Rajbhasha Vibhag, **Ministry of Home Affairs, GOI**, appreciating our endeavours as "true spirit of constructive journalism"
- Conducted Extensive coverage of Inter IIT , General Championships , Elections & Interviews of Artists , Alumni , Entrepreneurs and professors from IIT Kharagpur

AWARDS AND ACHIEVEMENTS

- Secured Zonal Rank **2** amongst **2000+** participationg institues & Awarded a **Silver Medal** by the **United Nations Organisation** at their All India Writers Contest.
- Secured **99.79** Percentile in **MHT-CET 2019** conducted by The **Government of Maharashtra**.
- Secured **99.01** Percentile in **JEE Mains 2019** conducted by National Testing Agency (NTA)
- Secured a state **Rank 11** in **National Interactive Math Olympiad** conducted by Eduheal Foundation
- Offered the **INSPIRE FELLOWSHIP** by Government of India for being in the **top 1%** in the state HSC Examination.