

MUGESH

Dublin | P: +353 877025709 | mushi025@gmail.com |
<https://github.com/mushiboy> | <https://www.linkedin.com/in/mugeshsp/>

Accomplished Computer Science Master's candidate with expertise in data pipeline design, optimization, and real-time monitoring. Proficient in Python, Flask, Machine Learning, and agile methodologies. Certified in Machine Learning, Statistics, and Computer Science. Grounded and solution-oriented Machine Learning enthusiast, passionate about leveraging technology to help others. Eager to contribute technical acumen and leadership.

EDUCATION

UNIVERSITY COLLEGE DUBLIN Dublin, Ireland

Master of Science Expected Jan 2023

Computer Science

Cumulative GPA: 3.77/4.2; 1:1 Honours

Relevant Coursework: Data Analysis, Software Engineering; Operating Systems; Algorithms; Artificial Intelligence

NATIONAL INSTITUTE OF TECHNOLOGY, CALICUT Kerala, India

Bachelor of Technology – Chemical Engineering Jul 2017 - Jul 2021

WORK EXPERIENCE

TATA CONSULTANCY SERVICES. Hyderabad, India

Systems Engineer (DataOps Engineer) Aug 2021 – Aug 2022

Client: Zoro Tools, Grainger USA

- Collaborated cross-functionally to design data pipelines using Apache Airflow, ensuring seamless data movement and alignment with varied source-destination requirements.
- Innovated robust data scraping techniques, optimizing extraction from diverse sources and enriching data quality and scope.
- Designed and implemented multiple dashboards in DataDog for real-time monitoring of Apache Airflow, facilitating proactive issue identification.
- Established effective alerts within DataDog, leading to swift error detection, diagnosis, and resolution, further enhancing pipeline reliability.
- Led code reviews and set coding standards, ensuring quality, readability, and maintainability of the data operations codebase.
- Conducted training sessions on pipeline design, Apache Airflow, and data scraping, fostering collaborative learning and enhancing team skills.
- Achievements:
 - Automated data pipelines, resulting in reduced daily errors and improved accuracy.
 - Commended by Zoro's CTO for team's outstanding performance.
- Tech Stacks:
 - Apache Airflow for orchestrated data workflows.
 - Terraform for infrastructure provisioning.
 - Google Cloud Services including BigQuery and Database for efficient data management.

UNIVERSITY PROJECTS

GENERATING ITINERARY BASED ON BUSYNESS (WEB APP) Jul 2023 – Aug 2023

- Designed and implemented itinerary generation web application in 6-person team.
- Orchestrated brainstorming sessions for innovative concepts, aligned with project goals. Conducted technical research to ensure feasibility and provided inputs for concept improvement.
- Engineered a sophisticated algorithm for automated itinerary creation. Transitioned from a simple greedy algorithm to a refined genetic algorithm, achieving efficient task allocation.
- Implemented Slack, Google Meet, and Trello for seamless communication and coordination. Managed discussions, meetings, and tasks through these tools, optimizing collaboration.

DUBLIN BIKES APPLICATION Apr 2021 – Jul 2023

- Led UI design and implementation, suggested sidebar navigation, maintained consistent design elements, and adopted a black-and-white theme.
- Spearheaded JavaScript front-end work, integrated Google Maps API, addressed challenges, optimized CSS, and successfully implemented features like marker clustering and route display.
- Established and managed Trello board, assigned tasks, acted as Scrum Master, and ensured agile practices for effective task distribution and progress tracking.

PREDICTION MODEL FOR PAINT PIGMENT MIXTURES Sep 2020 – Apr 2021

- In my B.Tech major project, I developed a color prediction system utilizing CatBoost and Neural Networks algorithms. This system accurately predicts two colors based on input and suggests the required composition to achieve the desired output color.
- Algorithms: Employed CatBoost and Neural Networks algorithms for accurate color prediction.
- Utilized Python libraries including CatBoost, Pandas, Numpy, and Matplotlib for data manipulation, visualization, and analysis.

PERSONAL PROJECTS

APARTMENT DATABASE MANAGEMENT SYSTEM Dec 2019 – Jan 2020

- As part of the CS50 course, I successfully completed an Apartment Database Management project. This involved the implementation of a comprehensive Database Management System using a combination of front-end and back-end technologies.
- Leveraged Bootstrap, HTML, and CSS to create an intuitive and visually appealing user interface for the system.
- Utilized Flask, a powerful Python web framework, to design and implement the back-end functionalities of the application.

ACTIVITIES

Indian Society for Technical Education NIT Calicut, Kerala, India

Secretary Apr 2019 – Apr 2020

- Led as the Head of the ISTE NITC Student's chapter, fostering an environment of collaboration and learning.
- Successfully organized "Atreya," a State convention that brought together various ISTE chapters, promoting knowledge exchange and networking.
- Spearheaded the introduction and execution of "JEENIUS," a JEE practice exam that provided valuable preparation resources for aspiring engineering students.
- Innovated "Newton Talks," a pioneering platform where students engaged with scientists and explored the realm of science through interactive discussions.

Magazine Committee NIT Calicut, Kerala, India

Design Head Apr 2020 – Apr 2021

- Led the design process for the College magazine in 2021.
- Guided and supported illustrators to create compelling designs.
- Elevated the magazine's visual quality and contributed to its successful publication.

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ADDITIONAL

Technical Skills: Python, CSS, HTML, JavaScript, Machine Learning, Deep Learning, Flask, Airflow, Image Scraping, Microsoft Office, VFX, Graphic Design, Photography, Adobe Photoshop.

Languages: Fluent in English, Tamil; Conversational Proficiency in Malayalam, Hindi

Certifications & Training: MITx - 6.86x: Machine Learning with Python - From Linear Models to Deep Learning (May, 2020 – Sep, 2020), 18.6501x: Fundamentals of Statistics (May 2020 – Sep 2020), 6.431x: Probability - The Science of Uncertainty and Data (Aug 2019 – May 2019), CS50: CS50's Introduction to Computer Science (Sep 2019 – Jan 2020)