

MUDIT GARG

[WhatsApp](#) | gargmu@tcd.ie | [Portfolio Website](#) | [LinkedIn](#) | Dublin, Ireland

PROFILE

As an upcoming **Software Engineer**, I am passionate about building efficient and optimized solutions that measurably improve business outcomes. I have a proven track record of producing such improvements, both as an individual contributor and as a team collaborator. I consistently strive towards attention to detail and perfection while also adopting a growth mindset. Currently, I am looking for opportunities to collaborate on latest technologies on amazing projects, while growing as an excellent software engineer.

EDUCATION

Masters in Engineering (M.A.I.). Major in Computer Engineering

Trinity College Dublin, Ireland

Sept 2023 – Jun 2024

Coursework: Information Retrieval and Search Optimization, Adaptive Applications, Software Engineering, Security and Privacy

Bachelors in Engineering (B.A.I.). Major in Computer Engineering

Involved in a 2+2 international credit transfer program based on merit awarded to the top 1% students of the batch. Final bachelor's degree was awarded by Trinity College Dublin

Trinity College Dublin, Ireland

Sept 2021 – Aug 2023

Coursework: Algorithm, Digital System Design, Microprocessor Systems, Signal and Systems, Probability and Statistics, Software Development Analysis, Computer Networks, Information Management for Engineers, Internet Applications, Database Management Systems, Deep Learning

Thapar Institute of Engineering and Technology, India

Aug 2019 – Aug 2021

Coursework: Data Structures, Operating Systems, Discrete Mathematical Structures, Machine Learning, Artificial Intelligence

Secondary High School Diploma. Major in Science. Minor in Computer Sciences

Sheiling House School, Kanpur, India

Till July 2019

EXPERIENCE

Software Engineer Intern

Jan 2023 – Aug 2023

General Motors

Dublin, Ireland

- Collaborated on a **Spring Boot, Maven** and **Java** based project with a team of 6 talented engineers, optimizing a microservice for about a **96.4% performance boost** and **reducing its tech debt by 23%**, streamlining the whole pipeline.
- Spearheaded the development of a new front-end architecture based in **Angular**, utilizing highly efficient, industry-standard UI/UX practices, resulting in **15% increase in user engagement** as compared to the previous iteration, without any increased cost.
- Collaborated with senior engineers across several time zones, streamlining the effectiveness of crucial **Power BI** reports, for increased productivity and efficient screen real-estate usage, **decreasing the number of reports required for the same data by 33%**.

SKILLS

Languages:	Java, Python, C/C++, Dart, SQL, JavaScript/TypeScript, HTML/CSS, ARM Assembly
Frameworks:	Spring Boot with Maven, Flutter, React with JavaScript, Flask
Databases & Libraries:	MySQL, PostgreSQL, Firebase Firestore, ScikitLearn, Numpy, Tensorflow, OpenCV
Tools:	Git, GitHub, Azure DevOps, Docker, Kubernetes, Jupyter, Power BI
Core Concepts:	Object Oriented Programming, Refactoring, Debugging, Agile, Scrum, Generative AI, CI/CD

PROJECTS

Portfolio Website with RAG based chatbot

Oct 2024

React, JavaScript, NPM, Python, Flask, ChromaDB, LangChain, Gemini 1.5 Flash API

<https://muditgarg48.github.io>

- Built a dynamic portfolio website using **React** and **JavaScript**, increasing recruiter engagement by **30%** through streamlined access to professional details and achievements, with improved user experience and adoption by **18%** (user survey).
- Integrated an AI chatbot with **Gemini 1.5 Flash API** and **ChromaDB**, enabling query-driven exploration of my portfolio, improving user interaction efficiency by **40%** with precise answers and guided navigation.

Gesture recognition-based device control

May 2024

Python, Jupyter, Tensorflow, OpenCV, Numpy, ScikitLearn, Google Mediapipe, Home Assistant

https://github.com/muditgarg48/gesture_based_device_control

- Utilized a custom **LSTM neural network** to develop a gesture recognition model that trains and recognizes gestures using limited datasets resulting in a consistent accuracy of about **93%** (manual rough estimate).
- Streamlined and automated the whole development process from project setup to IoT device communication using various **Python** packages like **Mediapipe** and **OpenCV** for key point extraction, **Tensorflow**, **NumPy** and **Scikit-Learn** for model preparation and training and **Home Assistant** for IoT device communication.

Candle in Dark

Flutter, Dart, Firebase, Google Cloud, XML

https://muditgarg48.github.io/candle_in_dark_web/

- Ideated and developed a **cross platform responsive app** using **Flutter**, **Firebase** and **Google Cloud**, serving as a platform for all the info for the newly arriving students of Trinity College to know everything about Trinity and Ireland.
- Implemented several interwoven intricate systems including **user authentication using Google Sign-In**, **user authorization**, **role-based access**, **feedback collection system**, **light/dark mode**, **admin panel**, etc.

Mar 2024

Peer to Peer Emergency Responder System

Python, Socket Programming

https://github.com/muditgarg48/p2_evac_system

- Designed a **peer-to-peer communication system** using **Python** with an ability to send messages within the same network without a server and implemented the system for an emergency evacuation scenario.
- Gained both theoretical and practical knowledge about utilizing **socket programming** and various networking protocols like **UDP**, **RDT 3.0** and **CRC** to improve the quality and security of the network while maintaining the privacy and integrity of the messages exchanged within the network.

Mar 2022

CERTIFICATIONS

Oracle Cloud Infrastructure 2024 Generative AI Certified Professional	Oracle MyLearn	2024
Career Essentials in Generative AI	Microsoft, LinkedIn Learning	2024
Google AI Essentials	Coursera	2024
Programming Foundations of Visual Studio Code with Git	LinkedIn Learning	2022
Learning C	LinkedIn Learning	2022
Technical Support Fundamentals by Google	Google, Coursera	2021

ACHIEVEMENTS

- Placed in first position in the Game of Codes 2019, a coding competition hosted by my college society and participated by more than 200 participants.
- Scored a 92.6% percentile in the highly acclimated national entrance exam, Joint Entrance Exam (JEE) Mains 2019 held in India and taken part by more than 12 lakh engineering students.
- Mentor of my school’s computer club (SHCC) for 2 consecutive years with a successful track record of providing mentorship to 10+ students and successfully hosting more than 5 technical events for the school’s Teknovation week.