

# Ishmeen Garewal

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## Education

Bachelor of Engineering : Computer Engineering  
Fr. Conceicao Rodrigues Institute of Technology - Mumbai, India  
■ CGPA: 9.66/10

Jun 2025

## Internship Experience

Intern at the Risk Advisory Department  
Deloitte Touche Tohmatsu India LLP - Mumbai, India

Jun 2024 - Jul 2024

- Conducted a comparative analysis of Operational Risk policies between the Reserve Bank of India (RBI) and a Non-Banking Financial Company (NBFC), identifying key risk areas and recommending mitigation strategies.
- Developed the front-end of a data visualization and analysis tool using the Django framework, incorporating HTML, CSS, and JavaScript to enhance user interaction and data presentation.
- Streamlined the calculation of Mark-to-Market (MTM), volatility, and option value for foreign exchange (FX) deals, migrating from manual Excel processes to a Python-based solution using libraries like NumPy, Pandas, and Quantlib, incorporating Black-Scholes models and Monte Carlo simulation models.

## Research And Publication

- **"FoodMO: A Food Nutrient Analysis Application using Optical Character Recognition and Machine Learning"**  
Presented at the 9th International Conference on ICT for Sustainable Development, Goa, India  
The paper is under publication in Springer's Lecture Notes in Networks and Systems (LNNS).
- **"Topic Modeling for Identifying Emerging Trends on Instagram using Latent Dirichlet Allocation and Non-Negative Matrix Factorization"**  
Presented at IEEE 2024 10th International Conference on Advanced Computing and Communication Systems, Coimbatore, India  
The paper has been published in IEEE Xplore.
- **"Emerging Applications and Challenges in Quantum Computing: A Literature Survey"**  
Presented at the International Conference on Advances in Big Data, Computing and Data Communication Systems, Port Louis, Mauritius  
The paper has been published in IEEE Xplore.
- **"Natural Language Processing: A Survey of Approaches, Applications, and Future Directions"**  
Presented at the Asian Conference on Intelligent Technologies, Karnataka, India  
The paper is currently under publication in IEEE Xplore.

## Select Academic Projects

### ECG Report Analysis by Leveraging Generative AI

August 2024 – Present

- Designing a web-based tool to analyze ECG reports and generate insights using Generative AI. The tool assesses the severity of potential heart conditions, presenting data in patient-friendly language to aid doctors in diagnosis.
- Analyzes past health conditions and forecasts future health risks based on current ECG data and the patient's lifestyle, delivering personalized heart health information.
- Utilizes LLMs and LangChain for report generation and implements deep learning models, such as RNNs and CNNs, for detecting and predicting future health conditions.

### FoodMO: A Food Nutrient Analysis Application using OCR and ML

August 2023 – May 2024

- Developed a nutrient analysis app that uses OCR to extract nutritional information from food labels and provides simplified details about ingredients.
- Determines food suitability based on user profiles, health history, and dietary needs using a Random Forest Regressor.
- Generates healthier recommendations using Cosine Similarity, tailored to users' health requirements.

### Physics IRL: An Augmented Reality (AR) Based Application

August 2022 – May 2023

- Created a mobile application on Flutter using AR to simplify physics concepts for young students.
- Engineered AR projections with Unity and C#, integrating Vuforia for image recognition and ARCore with ARFoundation for object detection, demonstrating concepts such as gravitational and frictional forces.

### CloudNote: Cloud-based Note-Making Platform

March 2024 – May 2024

- Developed a responsive, cross-platform, serverless note-taking application using AWS Lambda, API Gateway, and DynamoDB, allowing real-time note creation, updates, and management.
- Implemented IAM for secure access control.

## Intelligent Document Question-Answering System using RAG with PDF Processing

September 2024 – Present

- Created a system that allows users to upload PDFs and ask content-based questions. Uses PyMuPDF for text extraction, Hugging Face Transformers for semantic search, and FAISS for fast retrieval.
- Developed with a FastAPI backend and React.js interface for handling uploads and Q&A interactions.

## Technical Skills

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- **Programming Languages:** C, C++, C#, Java, Python, HTML, CSS, JavaScript, PHP, R
- **Databases:** MySQL, MongoDB
- **Tools:** Git/GitHub, Unix Shell, VS Code, IntelliJ IDEA, Android Studio, Unity, phpMyAdmin, PowerBI, Google Colab, AWS
- **Frameworks/Libraries:** Hadoop, React, Django, Flutter, Firebase, TensorFlow, Keras, PyTorch, Hugging Face

## Personal Projects And Co-curricular Activities

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### Umanita

- Designed and developed a platform enabling NGOs to create personalized websites using pre-designed templates and UI elements, simplifying the process of establishing an online presence.

### MyRecList

- Created a web application that recommends books and movies based on user preferences. Utilized Cosine Similarity for recommendations and employed the Streamlit library in Python for the application interface.

### CareerCruise

- Developed a student-focused platform during the Cognizant Digital Nurture Technoverse 2023. The platform offers aptitude assessments, career guidance, and resources for entrance exam preparation, providing personalized roadmaps to achieve career goals.

## Courses And Certification

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### Guided Projects and Courses on Coursera:

- Amazon Echo Reviews Sentiment Analysis Using NLP
- English/French Translator: Long Short Term Memory Networks
- Data Analysis Using PySpark
- Medical Insurance Premium Prediction with Machine Learning
- Interactive Machine Learning Dashboards using Plotly Dash
- Deep Learning for Real Estate Price Prediction
- Generating New Recipes using GPT-2
- Learning Web Development

### Professional Certifications:

- Google Cybersecurity Professional Certificate
- Introduction to Generative AI by Google Cloud Training

## Extra Curricular Activities

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### National Service Scheme (NSS) Club

August 2022 – July 2024

- Organized and participated in various social initiatives, including beach cleaning drives, plantation drives, blood donation camps at colleges and railway stations, free health check-ups, and awareness drives on mental health, menstrual health, and yoga.
- Engaged in a 1-week NSS camp in an economically and socially disadvantaged village, conducting educational sessions, performing skits, and leading group activities with students and villagers to promote education and physical well-being.
- Awarded the Best Volunteer Award for outstanding contributions during the camp.
- Taught cybersecurity and cyberbullying awareness to students in grades 5 through 8 under the CRY (Child Rights and You) program.

### IEEE Club

August 2023 – July 2024

- Organized and led seminars, workshops, and competitions as Deputy Program Committee Head.
- Conducted introductory sessions on STEM education for 9th and 10th grade students at local schools.

### Google Developer Student Club (GDSC)

September 2023 – July 2024

- Managed and organized reports and documents related to club activities.
- Participated in and managed various coding competitions, tech seminars, and quizzes hosted by the club.

### Student Mentor

August 2023 – Present

- Mentoring 1st and 2nd-year students in academic and co-curricular activities, providing guidance and support to help them succeed.