

# Praharsh R Dubey

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## EDUCATION

University of Glasgow

Glasgow, United Kingdom

MSc in Information Technology (Merit)

September 2022 – September 2023

Coursework: Advanced Programming, Cryptography and Secure Development, Internet Technology, Software

Engineering, Enterprise Cyber Security, Algorithms and Data Structures, Systems and Networks, Java Programming.

Thesis: ExpenSense, an automated expense management application for Small and Medium-Scale Enterprises.

Manipal University Jaipur

Jaipur, India

Bachelor of Technology (B.Tech) Electronics & Communication Engineering (CGPA 7.81/10) July 2016 – June 2020

Coursework: Programming in C, Embedded and Real-Time Operating Systems, Introduction to Python.

Thesis: Designed a reliable geographic routing protocol for Cognitive Vehicular Ad-hoc Networks.

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## CORE SKILLS, TECHNOLOGIES AND INTERESTS

**Programming Languages:** Python (Advanced), Java, JavaScript

**Frameworks & Libraries:** Django, FastAPI, NumPy, Pandas, CV2

**Database Systems:** SQL, NoSQL, Vector Databases (PostgreSQL, Cloud Firestore, ChromaDB)

**Cloud Platforms & Tools:** AWS (RDS, EC2, S3), Google Cloud (Vertex AI), Firebase, Docker, Git, JIRA, Trello

**Frontend Technologies:** React, Next.js, Node.js, Bootstrap, Material UI

**Testing Automation & Debugging:** Pytest, JUnit, Playwright, Postman

**Software Engineering:** Distributed Systems, System Design, System Architecture, API Development

**Data Processing & Analytics:** Data Pipelines, SQL Optimization, ETL Processing

**Soft Skills:** Verbal and Written Communication, Analytical Thinking, Critical Thinking, Problem-Solving, Design Thinking

**Interests:** Artificial Intelligence, Generative AI, Automotives, Formula 1, Anime, Hiking

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## WORK EXPERIENCE

Radical AI

Remote, UK

Software Developer Intern

July 2024 – October 2024

- Developed a **Generative AI-powered chat interface**, integrating **OpenAI API** to produce responses in a **Scottish accent**.
- Engineered **real-time NLP pipelines** with **LangChain & ChromaDB**, optimizing response times by **30%**.
- Collaborated with cross-functional teams to develop an intuitive multi-step onboarding workflow, increasing user engagement by 20% through Next.js with React on frontend and Firebase functions on backend.
- Implemented **secure role-based access (RBAC) & authentication (OAuth, JWT)** for AI-driven user interactions.
- Deployed AI workflows on **Google Cloud Vertex AI**, ensuring seamless cloud-based scalability.

Zummit Infolabs

Bengaluru, India

Project Management Lead

December 2021 – May 2022

Scrum Master

August 2021 – December 2021

- Led a team of 10 in developing an **AI API Marketplace** hosting **45+ ML models**, attracting **new investors & clients**.
- Spearheaded the **migration of a large-scale API system to FastAPI (Python)**, reducing response latency by **10%** and improving operational efficiency through performance optimisations.
- Launched webinars on **Reinforcement Learning** and Racism/Terrorism Detection capabilities.
- Designed **AI-powered financial analytics dashboards**, leveraging **NLP & predictive modeling**.
- Delivered over **80** sprint reports and technical presentations to clients, ensuring transparent and effective communication.
- Conducted industry analysis to identify development in **Machine Learning** and **Deep Learning** for clients, which increased average revenue by **9%**.

Golcha Group Pvt. Ltd.

Jaipur, India

IoT Developer Intern

December 2020 – July 2021

- Designed an **automated fuel tracking system** using Python-based **ETL pipelines** for financial reporting.
- Developed **data analytics dashboards** to visualize fuel usage trends with **Pandas & Matplotlib**.
- Engineered a highly accurate LiDAR system, **cutting operational costs by 20%** by using Intel's Open3D library with Python, **NumPy** and **Matplotlib**.

Manipal Institute of Technology

Udupi, India

Research Intern

June 2019 – July 2019

- Developed a QoS-based routing protocol for Body Area Networks, utilizing Object-Oriented Programming (OOP) principles in C++ to optimize network performance and reliability.

- Engineered an IoT-driven Home Security System, integrating **facial recognition** technology to enhance security automation and access control.
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## PROJECTS

**Gemini Quizify** | *VertexAI, Python, LangChain, ChromaDB, Streamlit, Google Cloud* | [Project Link](#) September 2024

- Developed a **Generative AI system** leveraging **RAG (Retrieval-Augmented Generation)** for **quiz creation from PDFs**.
- Implemented **LLM-powered embeddings with ChromaDB**, ensuring efficient **knowledge retrieval**.
- Optimized **AI processing with Google Cloud Vertex AI**, achieving a **40% reduction in response times**.

**ExpenSense** | *Python, Django, HTML, CSS, JavaScript, PostgreSQL, AJAX* | [Project Link](#) June 2023 – August 2023

- Engineered a **full-stack financial analytics platform** to streamline SME expense management, reducing manual processing time by **60%** through the implementation of OCR and **machine learning algorithms to detect fraud**.
- Developed a high-performance backend infrastructure using Django and PostgreSQL, ensuring reliability in financial transactions.

**Simplify: Django ORM Web Application** | *Python, Django, MVT, SQLite* | [Project Link](#) January, 2023 – March, 2023

- Developed a **scalable e-learning platform** using **Django ORM**, enabling real-time knowledge exchange between tutors and students.
- Led a team of **four developers**, following **Agile methodologies** (Scrum) and achieving **100% project delivery within deadlines**.
- Engineered a **RESTful API** for seamless course management, supporting CRUD operations for tutors and students.
- Designed and implemented **role-based authentication** to enhance security and user management.

**Duelyst2: Backend Game Development** | *Java, Websockets, Scala* | [Project Link](#) January 2023 – March 2023

- Designed and implemented server-side logic for a tactical card game, incorporating semi-intelligent opponent strategies and diverse gameplay rules to enhance user experience. Developed **server-side game logic** for a **real-time tactical card game**, implementing **stateful opponent AI** to enhance player experience.
  - Led a **five-member development team**, conducting **code reviews, debugging, and Agile-based sprint planning** to ensure timely delivery.
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## CERTIFICATIONS

- JavaScript Algorithms and Data Structures - freeCodeCamp
  - Intro to Machine Learning - Kaggle
  - Pandas - Kaggle
  - Cert Prep: Scrum Master - LinkedIn
  - Responsive Web Design certification - freeCodeCamp
  - Scrum: The Basics - LinkedIn
  - Python for Everybody specialization - Coursera
  - Interfacing with the Arduino - Coursera
  - Industrial IoT on Google Cloud Platform - Coursera
  - Internet of Things: How did we get here? - Coursera
  - The Arduino Platform and C Programming - Coursera
  - Introduction to Internet of Things and Embedded Systems - Coursera
  - PCB Designing - Certination Solution and Intel
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## PUBLICATION

Jha J., Dubey P.R., Pradhan P., Pai S.N. (2021) "IoT-Based Home Security System with Wireless Communication". In: Hassanien A., Bhatnagar R., Darwish A. (eds) Advanced Machine Learning Technologies and Applications. AMLTA 2020. Advances in Intelligent Systems and Computing, vol 1141. Springer, Singapore, Pg525-533. DOI: [https://doi.org/10.1007/978-981-15-3383-9\\_48](https://doi.org/10.1007/978-981-15-3383-9_48)

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## ACHIEVEMENTS

- **Hackathon:** 2nd place out of 50 participants in SAS Automation Challenge at CODE OLYMPICS 2023.
- Received the **Leadership Award** within the first month at Zummit Infolabs (2021).
- **Leadership:** Led a 50-member team at TEDx Manipal University Jaipur, achieving a 9/10 satisfaction score (2018).
- **Societies/Club Activity:** General Secretary of the Electronics club at Manipal University Jaipur, increasing club enrollment by 30% through strategic workshop initiatives (2018 - 19).
- **Merit Holder** in the High School Examination (2014).