Radhika Khatri

FULLSTACK DEVELOPER

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Summary

I'm a full-stack developer with hands-on experience in building end-to-end web applications. I specialize in backend development using Python and Node.js, with Firebase and MongoDB for real-time and efficient data handling. I've worked on AI-integrated systems using Retrieval-Augmented Generation (RAG) and Optical Character Recognition (OCR) for intelligent data processing. On the frontend, I craft responsive and interactive interfaces using HTML/CSS, React.js, Angular, and Three.js. I follow best practices in version control and collaboration with Git and GitHub, ensuring clean, scalable, and maintainable code.

Passionate about building user-centric, AI-powered solutions, I continuously strive to learn and grow. You can explore my work to see my projects in action: https://portfolio2-git-main-radhika-khatris-projects.vercel.app/

Experience

Veehive | Backend Developer   **Jun 2024 to Aug 2024**

- Developed a User Authentication System using Firebase for secure login and signup functionalities.
- Built a File Management System to handle file uploads and storage operations, integrating AWS S3 bucket for scalable object storage.
- Implemented a Chat Management System to store and retrieve user conversations.
- Used Node.js for backend development and MongoDB as the database for efficient data storage.
- Tested all API endpoints using Postman to ensure reliability and proper functionality.

EcoVanguard | Cofounder   **Dec 2023 to Current**

- In a competition held as part of COP28, we received an award of 25,000 dirhams, which was used to develop a working prototype of the autonomous biogas digester system.
- The system has led to a 15–20% increase in biogas production.
- We are currently in the prototype stage, focusing on further refinement and optimization.
- I trained a YOLOv8 object detection model using image datasets to automate the segregation of organic and inorganic waste.
- This model was integrated with the Mycobot280 robotic arm, powered by Jetson Nano, to deliver a fully autonomous waste-sorting solution.

Trusity | Freelance Full-Stack Developer   **May 2025 to Jun 2025**

- Developed a mobile application using Android Studio with Java and Kotlin, ensuring a modern and maintainable codebase.
- Designed responsive and user-friendly UI layouts using XML and Kotlin for smooth user interaction.
- Integrated Firebase Authentication to manage secure user login, registration, and session handling.
- Implemented AWS S3 bucket for scalable storage and retrieval of application assets.

AppGallop | Software Developer   **Jun 2025 to Aug 2025**

- Built and maintained backend pipelines for AI applications using Retrieval-Augmented Generation (RAG).
- Integrated Optical Character Recognition (OCR) to extract and process text from images and documents.
- Stored and managed embeddings in Pinecone and created similarity search indexes using FAISS.
- Streamlined data flow between AI components to enable real-time and efficient processing.
- Collaborated with cross-functional teams to align backend systems with AI product goals.

Education

Bits Pilani Dubai Campus, B.E. in Computer Science   **2022-2026**

I'm currently in the fourth year of my undergraduate studies with a CGPA of 8. Over the semesters, I've built a strong academic foundation in my core subjects. I enjoy applying what I learn through practical projects and real-world problem solving. This balance of theory and application keeps me motivated and curious. It's helping me grow steadily both academically and as a developer.

Delhi Public School Dwarka, Student   **2008-2022**

Final grade: 93% in 10th and 95% in 12th in the CBSE board examination. I was awarded a Gold Medal for seven years of academic excellence. In my 12th grade CBSE board exams, I achieved the following marks in key subjects: Chemistry: 97, Physics: 95, Mathematics: 99.

Management, Leadership, and Projects

Digital Twin of Mycobot-280 Jetson Nano

Developed a digital twin of the Mycobot280 Jetson Nano in Unity, which could be controlled through RViz and supported motion planning using MoveIt.

Waste Segregation using Mycobot-280 Robot Arm

Trained a YOLOv8 object detection model and integrated it with the Mycobot280 robotic arm on Jetson Nano to build an autonomous waste-sorting system.

Sewer Cleaning Robot

Secured 3rd position at ThinkAI'24, an ideathon hosted by the Microsoft Tech Club at BITS Pilani Dubai Campus, by presenting an innovative concept for a sewer-cleaning robot concept that combined robot design with deep reinforcement learning.

ACM-W Jump Mentorship

Mentored three students on simulating a UR-05 robotic arm in Gazebo. Guided them in implementing pick-and-place tasks using the simulation.

Executive Roles – Linux Users Group & IFOR (Robotics Club)

Conducted workshops on Linux and open-source technologies, and managed robotics workshops and events.

STEAM Event, BITS Pilani Dubai Campus

Organized an engaging activity where students played an "Odd or Even" game using Computer Vision, pitting human players against a computer.

Comparison of Deep Learning Algorithms

Focused on detecting neurodegenerative diseases from image datasets, including the use of a Convolutional Neural Network (CNN) with VGG16 for feature extraction and classification.

Publications

A Study to Evaluate Various Machine Learning Approaches for Early Prediction of Neurodegenerative Diseases   **2024**

Published in IEEE Xplore and presented at the esteemed CINS 2024 conference.

An Experimental Framework for Implementing Decentralized Autonomous Database Systems

2024

Published in IEEE Xplore and presented at the renowned CINS 2024 conference.

Comparative Analysis of Machine Learning Approaches to Predict Postoperative Mortality in Patients Undergoing Aortic Valve Replacement for Severe Aortic Stenosis   **2024**

Published in IEEE Xplore and presented at the renowned MOSICOM 2024 conference.

A Study to Evaluate Various Machine Learning Approaches for Breast Cancer Prediction and Detection   **2023**

Published in IEEE Xplore and presented at the prestigious MOSICOM 2023 conference.

Skills

– C/ C++   – HTML/CSS   – Python   – JavaScript/ Typescript   – ReactJS   – ThreeJS   – Firebase

– MySQL/ Mongodb/ Postgresql   – Git/ Github   – Postman   – Android Studio   – Java/ Kotlin   – Unity

– Pinecone   – RAG

Professional Skills

– Management   – Problem Solving   – Communication   – Leadership

Languages

– Hindi   – English

Hobbies and Interest

– Basketball   – Athletics   – Poems   – Bharatnatyam