

# Kartik Malik

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## EDUCATION

### University of Petroleum and Energy Studies

*BTech in Computer Science, Major in Cloud Computing and Virtualisation Technology*

**CGPA:** 7.8

Dehradun, Uttarakhand

*Aug 2022 – May 2026*

## TECHNICAL SKILLS

**Languages:** Java, Python, JavaScript, TypeScript, HTML, CSS

**Web & Frameworks:** React, Next.js

**Cloud & DevOps:** AWS, Docker, Kubernetes, Git, Linux, Containerization, Orchestration

**Databases:** MySQL, MongoDB

## EXPERIENCE

### Wildlife Institute of India

*AI and Software Developer Intern*

Dehradun, Uttarakhand

*June 2025 – July 2025*

- Developed a Siamese-network ear-pattern matcher in Python/PyTorch (EfficientNet-B0 backbone) to identify 266 elephants with 90% confidence in 2–5 s per image.
- Optimized the batch pipeline (Python + Node.js) to process 200 GB of field photos at 50–100 images/min—tripling throughput while preserving original folder hierarchies and metadata.
- Engineered a cross-platform Electron UI with native file dialogs and an Express.js Python IPC bridge, enabling offline, drag-and-drop identification and real-time, color-coded similarity reports.
- Website:** [Link](#)

## PROJECTS

### Bakery Management System | *React, Node.js, RabbitMQ, PostgreSQL, Docker*

[Link](#)

- Engineered a Node.js/Express backend with JWT-based authentication, role-based access control and Prisma ORM for PostgreSQL—optimizing queries to cut average API response times by 40% while ensuring type-safe, auto-migrated schemas.
- Implemented a RabbitMQ-driven order processing pipeline that decouples order intake from fulfillment, tripling throughput and enabling scalable, event-driven notifications without overloading the API server.
- Developed middleware for route protection, ensuring only verified users could access critical endpoints.
- Designed a React/Tailwind frontend with Axios-powered JWT session flow, live shopping-cart validations and role-based views—boosting user interaction speed by 30% and delivering a seamless, responsive shopping experience.

### AI Species Recognition System | *Python, TensorFlow, OpenCV*

[Link](#)

- Accomplished 90% classification accuracy by engineering an AI model trained on 1,500+ animal images using TensorFlow and OpenCV.
- Improved real-time responsiveness by optimizing inference to achieve prediction time under 200ms.
- Enhanced model generalization by applying preprocessing and augmentation, resulting in reduced overfitting.
- Balanced performance and accuracy by conducting hyperparameter tuning and validation.

## CERTIFICATIONS AND RESEARCH

### AWS Academy Graduate - Cloud Architecting

*Completed 20+ labs on AWS architecture and deployment*

[Link](#)

- Gained expertise in cloud architecture principles, design patterns, and best practices using AWS services

### AWS Academy Cloud Security Foundations

*Achieved 90%+ accuracy in cloud fundamentals and pricing models*

[Link](#)

- Developed foundational knowledge of AWS cloud concepts

### AWS Cloud Innovate Week

*Gained hands-on experience with 10+ AWS Services*

[Link](#)

- Successfully applied AWS concepts through hands-on participation in CloudQuest, Bootcamp, and JAM events.

## EXTRACURRICULAR ACTIVITIES

**Vultr Hackathon** — Secured Top 10 among participants

[Link](#)