

ABHINAV PANDEY

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ACADEMIC QUALIFICATION

Bachelor of Technology in Computer Science and Engineering (Artificial Intelligence), Amrita Vishwa Vidyapeetham, Amritapuri, Kerala; GPA: 8.93/10.0; 2025

WORK EXPERIENCE

Software Development Engineer – 1, Margati Inc. (Full-Time remote), Coimbatore, India Mar. 2025 – Present
(Margati is an AI-powered platform designed for goal-based communication, aiming to replace traditional search engines with more targeted, secure, and efficient interactions.)

- Led a 4-member AI research team, assigning tasks, setting goals, and ensuring timely delivery.
- Prototyped an AI module that converts parts of web pages into vector embedding using FAISS, enabling fast retrieval of relevant context.
- Implemented a deep semantic search pipeline involving session management, Google-search string generation, markdown conversion and download, and grounded search using Gemini 2.5 Flash.
- Worked extensively with multiple paid LLMs (GPT-4o and entire GPT lineup, Gemini 2.5/3.5) and fine-tuned models via OpenAI and in-house open-source models like LLaMA 3.
- Managed AWS infrastructure, optimized deployment pipelines, allocated GPU resources, and configured Nginx for high-performance backend systems.

Technical Consultant - DevOps (Part-Time, Project-Based) | IIONS Tech Pvt. Ltd., Lalitpur, Nepal Mar. 2026 – Present

(IIONS Technology is a specialized engineering firm focused on building public infrastructures, civic systems, and enterprise-grade platforms.)

- Collaborated on the design and maintenance of scalable cloud network infrastructures utilizing AWS and GCP environments.
- Built, optimized, and maintained secure CI/CD pipelines to streamline deployment automation across active testing and staging environments.
- Assisted with the optimization of high-availability backend infrastructures, focusing on low-latency data flow and financial security compliance standards.
- Monitored cloud resource allocation, system metrics, and logging frameworks to ensure architectural efficiency.

Lead Software Engineer, ResumeSkool, Bengaluru, Remote Oct. 2023 – Jul. 2024

(ResumeSkool is a free AI resume builder with 50+ templates, expert reviews, and FAANG-level interview prep.)

- Led a 5-member development team, managing frontend, backend, analytics, and production environments.
- Developed and deployed backend services for payment processing (Razorpay integration), email notifications, and admin dashboards.
- Designed and implemented a scalable, modular frontend architecture, reducing page load time and improving user experience for 2,000+ active users.
- Oversaw CI/CD pipelines, monitored production metrics, and ensured uptime stability.
- Conducted code reviews and mentored junior developers, improving code quality and team efficiency.
- Coordinated with design, marketing, and product teams to ensure smooth deployment cycles and timely feature releases.

ACADEMIC PROJECT

Title: Enhancing AI Text Generation to Surpass Detection: A PPO Reinforcement Learning Approach

Duration: Jun–Aug 2024

Team Size: 3

Summary: Developed a PPO-based reinforcement learning pipeline to fine-tune LLaMA models, enhancing human-like text generation to bypass AI detection. Improved BLEU, ROUGE, and METEOR scores while preserving semantic coherence using RLHF with reward normalization, KL-divergence constraints, and epsilon clipping for stable and efficient policy training.

Role: Led literature review, developed key implementation modules, and contributed to paper drafting.

Title: Software Inventory

Duration: Jul-Sep 2023

Team Size: 5

Summary: Designed a vulnerability detection system for Linux systems, deployed on all the VMs in a Proxmox server. Served as a team lead, decreased the Docker image size, and reduced latency for scanning and detection, which increased the average performance of the system by 63% in terms of resources used.

Role: Team lead, handled project development, built multiple research prototypes, and oversaw testing.

PUBLICATION

A. Pandey, "VULNDET: A distributed system for detecting vulnerabilities in project dependencies," in Proc. 16th Int. Conf. Comput., Commun. Netw. Technol. (ICCCNT), IIT Indore, India, Jul. 2025, pp. 1–6, to be published.

ACHIEVEMENTS

- Winner, for developing a viral marketing analytics tool, Hito Virality Hackathon, Topmate, Bengaluru, India, Dec. 2024
- Winner, for building a real-time collaboration platform, Hackverse 4.0 Hackathon, NIT-K, Surathkal, Apr. 2023
- Global Nominee for designing a satellite data visualization, NASA Space Apps Challenge, Kathmandu, Nepal, Oct. 2022

TECHNICAL SKILLS

Programming Languages: Java, Python, JavaScript, TypeScript, MATLAB, HTML, CSS

Frameworks & Libraries: React, Next.js, Redux, Express.js, Django, Nest.js, NumPy, OpenCV, PyTorch

Databases: MySQL, PostgreSQL, MongoDB, Redis, SQLite

Tools & Platforms: Git, GitHub, Docker, LangChain, Packet Tracer, Arduino, Raspberry Pi

Cloud & Infrastructure: AWS, Google Cloud

Other: Computer Vision, Large Language Models (LLMs), API Development, CI/CD Pipelines

EXTRACURRICULAR ACTIVITIES

- Core Committee Member and organized a meetup for 100+ first-year students, developed the event website, and led a hands-on Git/GitHub workshop, Hacktoberfest Meetup 2023, Amrita Vishwa Vidyapeetham, Kerala, Oct. 2023
- As a member and mentor, led open-source software projects, developed the club website, mentored 20+ junior members in coding and project management, and managed social media and mailing services, amFOSS (Amrita Free and Open Source Software Club), Kerala, Nov. 2022 – May 2025
- Organized and conducted a two-day JavaScript and Web Development workshop for school students on campus to inspire interest in JavaScript and web development, Amrita Vishwa Vidyapeetham, Kerala, India, Apr. 8–9, 2023
- Instructed and led an Arduino-based robotics Workshop for grades 4 to 6 students, teaching fundamental robotics concepts. Guided six student teams in building projects like automatic emergency lights and small weather stations, collaborating with five instructors, and concluding with student project presentations, Lake Ford School, Kollam, Kerala, India, Dec. 2, 2023