

Ayush Kumar Karn

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ABOUT ME

I aim to build a long-term career in software engineering, collaborating with professional organizations to achieve impactful outcomes. Seeking a role where I can continuously upgrade my skills, contribute to innovation, and support the organization in reaching new levels of success. My goal is to attain high-level expertise in software engineering and related domains.

EDUCATION

Degree	Institution	Year	Score
B.Tech in CSE	College of Engineering Roorkee, Uttarakhand	2022–2026	73%
HSC (Class XII)	Diksha Rising Stars Public School, Haridwar	2021–2022	76.6%
SSC (Class X)	Diksha Rising Stars Public School, Haridwar	2019–2020	73.6%

WORK EXPERIENCE

Research and Development Intern

May 2025 – July 2025

Indian Institute of Technology, Roorkee

- Working on a project titled “**Techniques for Context-Based Security Analysis of Platform**” under the **Defence Research and Development Organisation (DRDO)**.
- Engaged in **Android malware detection** using **Graph Neural Networks (GCN, GAT)** to analyze **APK behavior**.
- Designed and processed feature-rich **datasets** by extracting relevant **APK metadata** and analyzing **dangerous permissions**.
- Conducted **experiments** and **comparative analysis** to improve **detection accuracy** and model **robustness**.
- Tools and technologies used: **Python, Spyder, AndroZoo API, PyTorch, TensorFlow, Matplotlib, NumPy**.

PROJECTS

RE-DACT Masking Sensitive and Informative Data

- Developed a tool to mask sensitive data in Word, PDF, images, and even video files. Utilized OCR technology for detecting sensitive data in images and videos. The tool provides customizable masking options based on user preferences, and the modified document can be downloaded with masked information.

Real Time Fake Profile Detection

- Developed a system to detect fake Reddit profiles by analyzing user behavior, post content, and image data. Integrated Reddit API for real-time data analysis and reporting.

AI-Based Image Generator App

- Built a web app using Streamlit and Stable Diffusion for generating high-quality, user-prompted images. Enhanced image quality with OpenCV for super-resolution and applied PIL for post-processing, adjusting sharpness and contrast. Integrated ngrok for remote access, employing Python, PyTorch, Streamlit, OpenCV, PIL, and ngrok.

RESEARCH & PUBLICATION

- Behavioral Characteristics-Based Drowsiness Detection System Using Machine Learning** – 15th ICCCNT-2024, IIT Mandi.
- Enhancing Underwater Image Visibility Using Stable Diffusion with DreamBooth Algorithm** – 15th ICCCNT-2024, IIT Mandi.
- Kolmogorov-Arnold Networks in Dermatology: Skin Lesions Classification** – Global AI Summit 2024, Bennett University.
- Advancements in Animal Behaviour Monitoring and Livestock Management: A Review** – 7th IC3I – 2024, Amity University
- Shields and Shadows: Redaction Strategies in the Age of Open Data** – IC3SE 2025, Amity University.

TECHNICAL SKILLS

- **Languages:** Python, SQL, JAVA
- **Data Analysis:** Pandas, NumPy, Excel
- **Tools:** Jupyter Notebook, VS Code, Git, GitHub
- **AI & ML:** TensorFlow, PyTorch, OpenCV, LLMs (Llama2, ChatGPT)

STRENGTHS

- Creative Problem Solving
- Strong Leadership
- Time Management
- Team Oriented

CERTIFICATIONS & ACHIEVEMENTS

- 2nd Position – National Hackathon 4.0, COER University
- 1st Position – Internal Hackathon 1.0, COER University
- 1st Position in the 12 hours long hackathon for the Smart India Hackathon.
- Conducted AI & Python Workshop – COER University
- 9th Position – Manthan 3.0 National Hackathon, COER University
- 4th Position – Technical Project Exhibition, DIT University