

## Shivang Rawat

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### PROFESSIONAL SUMMARY

Enthusiastic and detail-oriented Computer Science undergraduate with strong practical experience in **Linux systems, distributed computing, machine learning, and network protocols (TCP/IP)**. Proficient in **C, C++, Java, and Python**, with a proven track record of building real-world projects including an **open-source virtual memory manager in MINIX 3** and **machine learning-based intrusion detection systems**. Strong foundational knowledge of **Computer Networks, OS, and Data Structures**. Certified in **AWS Cloud, Ethical Hacking, and Generative AI**. Passionate about solving complex problems and contributing to impactful software solutions.

### ACADEMIC DETAILS

Year	Degree/Exam	Institute	GPA/Marks (%)
Expected 2026	B.Tech in CSE	Graphic Era Hill University, Dehradun	8.1/10.0
2022	12 <sup>th</sup> , UK board	JP Public School, Kotdwar	77.49 %
2020	10 <sup>th</sup> , UK board	JP Public School, Kotdwar	86.5 %

### PROJECTS

#### Student Feedback Review System using Machine Learning *(Sep – Dec 2024)*

- Developed a **Flask-based web application** to analyze and classify student feedback using **Natural Language Processing (NLP)**.
- Implemented **Sentiment Analysis** and **Text Classification** models using **Naïve Bayes, Random Forest**, and **SVM**.
- Applied **TF-IDF vectorization** and **hyperparameter tuning** to optimize accuracy.
- Integrated **data visualizations** (charts, graphs) to highlight sentiment trends and insights for academic improvements.

#### Intrusion Detection System (IDS) for Cybersecurity *(Feb – June 2024)*

- Built a **machine learning-based Intrusion Detection System (IDS)** to detect network anomalies and potential threats.
- Employed **K-Means Clustering** and **Random Forest** algorithms on **NSL-KDD** and **CICIDS 2017** datasets.
- Achieved **95%+ accuracy** with Random Forest classifier.
- Designed a **real-time alert system** to notify users of suspicious activities.

#### Open Source Virtual Memory Manager in MINIX 3 *(Feb – May 2025)*

- Contributed to **MINIX 3 open-source kernel**, implementing **FIFO, LRU, LFU**, and **Second-Chance** page replacement algorithms.
- Modified the **virtual memory server**, rebuilt the ISO, and conducted testing in a virtual environment.
- Gained deep experience with **C programming, kernel-level debugging**, and **Unix-based operating system internals**.

### TECHNICAL SKILLS

- Languages**- Python, C, C++, Java, JavaScript, SQL, PHP, HTML, CSS, React.js
- Tools and Frameworks** - Pandas, NumPy, NLTK, Matplotlib, Django, AWS Lambda, NLP, Flask.
- Machine Learning Tools** – Tensorflow, Keras, scikit-learn, LightFM, XGBoost, PyTorch.
- Operating Systems**: Linux, Windows.
- Core Subjects**: Computer Networks, Operating Systems, DBMS, Data Structures, Machine Learning

### CERTIFICATIONS ACHIEVEMENTS

- AWS Essentials (Cloud, Machine Learning, Generative AI, Security) – AWS Skill Builder**
- Certified Ethical Hacker (Beginner Level) – Cisco Networking Academy**
- Foundations: Data, Data, Everywhere – Google Data Analytics Certificate (Coursera)**

### POSITIONS OF RESPONSIBILITY

- Organising Member of Aarambh 3.0** (Sep 2024) : Participated as an active member of organizing team (Co'dev club) for the event Aarambh 3.0
- Project Lead** - Led multiple group projects, managing end-to-end development, feature implementation, and testing.