Subham Dhouni

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Education

Chandigarh University **Aug. 2023 – Aug 2025**
Master of Engineering in Computer Science *Kharar, Punjab*

Chandigarh University **Aug. 2019 – Jul 2023**
Bachelor of Engineering in Electronics and Communication *Kharar, Punjab*

Relevant Coursework

- Artificial Intelligence
- Machine Learning
- LangChain Framework
- Prompt Engineering
- Data Structures
- Database Management
- Computer Networks
- Web Development

Experience

Internship - XenonStack **Feb 2025 – Aug 2025**
Associate Software Engineer (AI Engineer Intern) *Mohali, Punjab*

- Developed an AI-powered log analysis **agent** using **MCP server** that processes user prompts, retrieves logs from **Grafana Loki**, and performs root cause analysis with remediation suggestions. Integrated **Prometheus** for metrics analysis and automated graph generation, **reducing log analysis and issue detection time by 80%.**
- Contributed to Model Marketplace backend supporting multiple Hugging Face models (LLM, LAM, LCM), enabling rapid scaling and deployment of models in a Kubernetes cluster for quick accessibility.
- Fine-tuned a Small Language Model (SLM) for log classification (healthy vs. unhealthy) and categorization of unhealthy logs into 5 issue types for targeted troubleshooting. **Achieved 94% classification accuracy** and deployed the model in a Raspberry Pi simulator to demonstrate edge AI capabilities.

Projects

RowBot: SQL Query Agent | *Python, LangChain, FastAPI **[LINK]*** **Jan 2025**

- Built an AI-powered SQL execution platform using **LangChain** for **natural language processing** and an Agent to convert user queries into SQL commands.
- Integrated Excel file uploads via Pandas for parsing and stored data in SQLite for efficient querying.
- Created a real-time interface using FastAPI WebSockets, HTML/CSS/JavaScript, and smooth table animations for dynamic results.
- Deployed full-stack application to Render, enabling public access without local setup requirements.

Virtual Paint | *C++, OpenCV, Visual Studio* **Apr 2023**

- Developed a real-time virtual painting system in **C++** using **OpenCV**.
- Enabled dynamic drawing with multiple color options controlled by user gestures.
- Applied computer vision techniques to interpret webcam input, translating hand movements into responsive drawings.

Technical Skills

Languages: C++, Python, Go, HTML/CSS, JavaScript, SQL
Developer Tools: VS Code, Visual Studio, PostgreSQL, Grafana Loki, Prometheus
Technologies/Frameworks: LangChain, OpenCV, Hugging Face Transformer, Git/Github, Docker

Research Contributions

Flood Prediction System Using Machine Learning: Accepted at ICAISI Conference **(Scopus indexed)**. Publication in progress.
Flood Forecasting in the Age of AI: A Review of Machine Learning-Based Approaches: Accepted at ICAISC Conference **(Scopus indexed)**. Publication in progress.

Leadership / Extracurricular

- Secured **3rd** place out of **100+** participants in the HackerEarth coding contest at my university.
- Solved **350+** programming problems on GeeksforGeeks, demonstrating strong problem-solving skills.
- Led the organization of sports activities for approximately 80 students in 2019, showcasing leadership and teamwork abilities.