

SHUBHAM MISHRA

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🌐 [LinkedIn](#)

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Education

National Institute of Technology, Rourkela

Bachelor of Technology in Computer Science and Engineering (CGPA: 6.11/10)

Prasadi Academy, Lalitpur

+2 (PCM)

December 2023 – Present

Rourkela, Odisha

July 2020 – June 2022

Lalitpur, Nepal

Relevant Coursework

- Data Structures & Algorithms
- Database Management System
- Machine Learning
- Object-Oriented Programming
- Operating Systems
- System Design

Work Experience

Independent Quantitative Researcher

01 May 2026 – 30 June 2026

Quantitative Backtesting Framework for EMA Angle Crossover Strategies

Certificate

- Built a Python backtesting engine with 70/30 Walk-Forward Analysis across 1,440 parameter combinations to prevent look-ahead bias.
- Developed a scale-independent EMA angle metric and modeled transaction costs to evaluate Sharpe ratio, drawdown, and net profitability.
- Applied Wilcoxon and Cliff's Delta tests, showing that theoretical strategy edge weakened under realistic execution costs.

Projects

PaperCode – Terminal AI Coding Agent

Aug 2026

TypeScript, Node.js, Ink

GitHub

- Built a provider-agnostic terminal AI agent supporting OpenAI, Groq, Together, and local Ollama through BYOK configuration.
- Implemented PLAN and BUILD modes for safe repository exploration and approval-gated file editing and terminal operations.
- Built persistent JSON-backed sessions with automatic context compaction and 12+ commands for model and session management.

Skin Cancer Classification

Feb 2026

Python, CNN, TensorFlow

GitHub

- Built a TensorFlow/Keras CNN to classify skin lesions as benign or malignant from labeled medical images.
- Applied image preprocessing, augmentation, and model evaluation to improve prediction robustness.
- Integrated the trained model into an interactive web interface for real-time prediction.

Achievements & Certifications

Ethical Hacking from Scratch

May 2024 *Certificate*

- Completed 15+ hours of training and 20+ labs covering penetration testing and vulnerability assessment using Nmap, Wireshark, SQLmap, and Metasploit.

Hack-Innovision Participation

Dec 2023 *Certificate*

- Participated in Hack-Innovision 2024 among 300 participants in a competitive team-based environment.

Website Hacking / Penetration Testing

Dec 2024 *Certificate*

- Completed 50+ hands-on exercises covering SQL Injection, XSS, Broken Authentication, LFI/RFI, and CSRF.

Technical Skills

Languages: C/C++, Python, JavaScript, HTML/CSS

Frameworks & Libraries: React.js, Node.js, Express.js, Tailwind CSS

Databases: MySQL, MongoDB

Architecture & Dev Tools: Git/GitHub, Postman, REST APIs, Microservice Architecture (Basics), ImageKit, Vercel

Extracurricular Activities

Innovision

Nov 2025

Team Lead – Event Management

National Institute of Technology, Rourkela

- Led setup and teardown for 10+ booths, reducing setup time by 20% through improved resource allocation and team coordination.