

# Daljeet Singh

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## EDUCATION

**Amity University, Mumbai** Maharashtra, India  
Bachelor of Science (B.Sc.) Information Technology, **Grade - First Division**  
Courses : OOP, DSA, Blockchain, Cloud Computing, Operating Systems, Machine Learning, DevOps, Mathematics

## SKILLS

**Languages:** C, C++, Python, Golang, Java, Html, CSS, JavaScript, SQL  
**Databases:** PostgreSQL, SQLite, MongoDB, Redis  
**DevOps Tools:** Linux, Docker, GitHub Actions  
**Tools/Frameworks:** AWS, Jenkins, Jira, OpenStack Cloud, GCP

## PROJECTS

[daljeetsingh.me/#/projects](#)

**Janus** | *Golang, IP Blocking, Docker, AI Scraper Mitigation, Typescript, HTML* — 🌐 May. 2025 - Sept. 2025  
Janus is a security middleware designed to protect web services by implementing a Proof-of-Render (PoR) challenge

- Designed a novel "Proof of Humanity" engine with **99.5%** accuracy by analyzing **over 15** unique signals, applying Proof of Render to desktops and physical sensor checks (accelerometer) to mobiles
- Architected a stateful Go reverse proxy using **Redis** to manage **over 10,000** concurrent sessions, with a continuous "zombie" monitor to block bots exhibiting non-human navigation.
- Developed a full security middleware suite, including a configurable IP-based rate limiter to **mitigate DDoS attacks** and a User-Agent allow-list to ensure SEO crawlers are not blocked.

**Market Prediction** | *Python, scikit-learn, Optuna, CI-like scripts, joblib* — 🌐 Sept. 2025 - Present  
Developing a predictive model for S&P 500 excess returns using machine learning techniques, with integrated volatility management to explore market inefficiencies.

- Approach:** Applying time-series forecasting (e.g., ARIMA, LSTM) and risk optimization methods to simulate return scenarios and test the **Efficient Market Hypothesis** through data-driven analysis of historical patterns.
- Focus Areas:** Examining implications for personal finance strategies, such as active vs. passive investing, while prioritizing practical implementation in Python (Pandas, Scikit-learn) for reproducible results.
- Current Status:** Ongoing back testing and refinement phase, with preliminary visualizations and code hosted on GitHub; targeting completion of a full report by [target date, e.g., Q1 2026].

## RESEARCH WORK

Research Publication: *Enhancing Accessibility through Real-Time Scene Understanding and Navigation for the Visually Impaired* June. 2024 – August 2025  
**First Author, IEEE CVPR Workshop on AI for Accessibility, 2025** Co-authored with Dr. Narayan Kulkarni, Assistant Professor, Amity Institute of Information Technology (AIIT)

- Presented a dual-model framework **combining SSD-VGG16 and CRNN** for real-time object and text recognition, optimized for mobile deployment.
- Demonstrated practical efficacy across 1,000 real-world images, with **detailed ablation** studies on model limitations and deployment constraints.

## CERTIFICATIONS

[daljeetsingh.me/#/certifications](#)

**5-Day AI Agents Intensive Course with Google Certification** 🌐  
*Skills : Context Engineering, Python, Google Agent Development Kit (ADK), Google Gemini, Kaggle Notebooks*

**GitHub Co-Pilot (GH-300) & GitHub Foundations (GH-100) Certification** 🌐  
*Skills : AI Usage and Ethics, Developer use cases for AI, Unit Testing and Application Development*

**Harvard's Computer Science University Course (CS50x) 2025** 🌐  
*Skills : Algorithmic Design and Efficiency, Debugging and Error Handling, Software Engineering Best Practices*

**Digital Marketing Mastery Course by Quibus Trainings Jaipur** 🌐  
*Skills : Marketing Strategy Development, Copywriting, SEO, Social Media Management, Funnels, Brand Management*