Daljeet Singh

contact@daljeetsingh.me | daljeetsingh.me | djtsingh | +91-7304359646 | djtsingh | Mumbai

Formal Education

Amity University, Mumbai *Panvel, Maharashtra*

Bachelor of Science (B.Sc.) Information Technology, **Grade – First Division**

- **Extracurriculars**: Student Council, School Website (Project Manager), Competitive Programming Club (Tech Hack), Engineering Club (Technicia 2024)

Skills

Languages: C/C++, Python, SQL, JavaScript/Typescript, Bash, HTML, CSS

Databases: PostgreSQL, MySQL, MongoDB

DevOps Tools: Linux, Docker, GitHub Actions, CI/CD, Version Control (Git/GitHub)

Tools/Frameworks: Git, NumPy, OpenCV, Django, Google Cloud Platform, TCP/IP

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 & Navigation for 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) (Under Peer Review)*

- 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

Digital Marketing Mastery Course by Quibus Trainings Jaipur

Skills : Marketing Strategy Development, Copywriting, SEO, Social Media Management, Funnels, Brand Management

GitHub Co-Pilot (GH-300) & GitHub Foundations (GH-100) Certified

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 Practice