Daljeet Singh

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FORMAL EDUCATION

Amity University, Mumbai   *Panvel, Maharashtra*

Bachelor of Science (B.Sc.) Information Technology, **Grade – First Division**   July. 2025

- **Extracurriculars**: Minor in Political Science, School Website (Project Manager), Competitive Programming Club (Tech Hack), Engineering Club (Technicia 2024)

SKILLS

Languages: C/C++, Python, SQL, Bash, Java, Golang, HTML, CSS
Databases: PostgreSQL, MongoDB
Frameworks/Libraries: Fast API, REST API, Node.js
DevOps Tools: Docker, GitHub Actions, Git, Linux/Unix, CI/CD Pipelines

PROJECTS   daljeetsingh.me/#/projects

Janus | *Golang, IP Blocking, Docker, AI Scraper Mitigation, TLS Fingerprinting, HTML* — ⓸   Aug. 2024 - Sept. 2025

Bot Mitigation & Traffic Analysis Engine

- **Engineered Go-based middleware** for automated bot detection using **multi-signal scoring** (TLS fingerprinting, geo-IP reputation, browser fingerprinting, rate limiting)
- Implemented hybrid Proof-of-Work challenge system with **JWT authentication**, reducing false positives while **maintaining sub-100ms latency** for verified users
- Built **RESTful API** with three core endpoints handling fingerprint ingestion, challenge generation, and verification with **SHA256 cryptographic proofs**
- Designed stateful challenge management system with configurable difficulty levels (desktop/mobile) and **nonce-based replay attack prevention**

Hull Tactical Market Prediction | *LightGBM, Polars, Scikit-learn, Joblib, ONNX, PyTorch* — ⓸   Sept – Dec.2025

Developed an ensemble machine learning system to predict S&P 500 excess returns with dynamic risk management, processing 252-day rolling windows of financial time-series data in real-time inference environment.

- **Built high-performance feature engineering pipeline** using Polars for on-the-fly feature generation, processing 200+ financial indicators (market, economic, price, volume, sentiment, momentum, derivatives, intermarket metrics)
- **Engineered 500+ derived features** including lag features (1-3 periods), rolling statistics (5-day, 21-day windows), and group-level aggregations across 8 market categories
- **Implemented stateful rolling buffer system** with deque data structures maintaining 252-day historical context, enabling chronological time-series predictions without data leakage

RESEARCH WORK

Research Publication: June. 2024 – August. 2025

Enhancing Accessibility through Real-Time Scene Understanding & Navigation for Visually Impaired 📄

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