

Daljeet Singh

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FORMAL EDUCATION

Amity University, Mumbai

Panvel, Navi Mumbai

Bachelor of Science (B.Sc.) Information Technology, Secondary Field in French and Political Science July. 2025

- **Relevant Coursework:** Software Engineering, Public Speaking, Data Structures with C++, Operating Systems, Introduction to Machine Learning, Business Intelligence, Cloud Computing (Azure & AWS), Java, DBMS

EXPERIENCES

Digital Systems & Growth Lead

Sept. 2022 – Sept. 2025

Multi-Channel Portfolio

Mumbai, MH

- Scaled a multi-channel digital portfolio to **2M+** aggregate views by leveraging data-driven SEO, metadata schemas, and targeted technical content deployment.
- Leveraged Generative AI for automated asset production across both platforms, reducing time-to-market for new content by **50%**

Research Assistant

Jun. 2023 - Aug. 2024

Amity Centre for Artificial Intelligence (ACAI)

Panvel, Navi Mumbai

- Research Assistant to Dr. Manoj Devare | Boosted AI/ML model performance on constrained devices by **~24%** and improved tech accessibility, driving a **~42%** increase in user participation.

PROJECTS

daljeetsingh.me/#/projects

Janus | Golang, IP Blocking, Docker, AI Scraper Mitigation, TLS Fingerprinting, HTML — 🐙 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 two core endpoints handling fingerprint ingestion, challenge generation, and verification.

Hull Tactical Market Prediction | LightGBM, Polars, Scikit-learn, Joblib, ONNX, PyTorch — 🐙 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 (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 – Present

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

First Author, Published on TechRxiv.org (Preprint Server) | DOI: [10.22541/au.176843166.60388360/v1](https://doi.org/10.22541/au.176843166.60388360/v1)

Co-authored with Dr. Narayan Kulkarni, Assistant Professor, Amity Institute of Information Technology (AIIT)

- Developed a **dual-stream deep learning framework** combining SSD-VGG16 and CRNN for real-time object detection and text recognition, **optimized for resource-constrained** mobile devices.
- Validated system performance on 1,000+ real-world images across diverse lighting and environmental conditions, demonstrating **practical applicability for assistive navigation**.

SKILLS

Programming: 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