

# Daljeet Singh

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## FORMAL EDUCATION

<b>Amity University, Mumbai</b> Bachelor of Science (B.Sc.) Information Technology, Secondary Field in French and Political Science	Panvel, Navi Mumbai July. 2025
<ul style="list-style-type: none"><li><b>Relevant Coursework:</b> Software Engineering, Public Speaking, Data Structures with C++, Operating Systems, Introduction to Machine Learning, Business Intelligence, Cloud Computing (Azure &amp; AWS), Java, DBMS</li></ul>	

## EXPERIENCES

<b>Digital Systems &amp; Growth Lead</b> <i>Multi-Channel Portfolio</i>	Sept. 2022 – Sept. 2025 <i>Mumbai, MH</i>
<ul style="list-style-type: none"><li>Scaled a multi-channel digital portfolio to <b>2M+</b> aggregate views by leveraging data-driven SEO, metadata schemas, and targeted technical content deployment.</li><li>Leveraged Generative AI for automated asset production across both platforms, reducing time-to-market for new content by <b>50%</b></li></ul>	

  

<b>Research Assistant</b> <i>Amity Centre for Artificial Intelligence (ACAI)</i>	Jun. 2023 - Aug. 2024 <i>Panvel, Navi Mumbai</i>
<ul style="list-style-type: none"><li>Research Assistant to Dr. Manoj Devare   Boosted AI/ML model performance on constrained devices by ~<b>24%</b> and improved tech accessibility, driving a ~<b>42%</b> increase in user participation.</li></ul>	

## PROJECTS

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

<b>Janus</b>   <i>Golang, IP Blocking, Docker, AI Scraper Mitigation, TLS Fingerprinting, HTML</i> —	Aug. 2024 - Sept. 2025
Bot Mitigation & Traffic Analysis Engine	
<ul style="list-style-type: none"><li><b>Engineered Go-based middleware</b> for automated bot detection using <b>multi-signal scoring</b> (TLS fingerprinting, geo-IP reputation, browser fingerprinting, rate limiting)</li><li>Implemented hybrid Proof-of-Work challenge system with <b>JWT authentication</b>, reducing false positives while <b>maintaining sub-100ms latency</b> for verified users</li><li>Built <b>RESTful API</b> with two core endpoints handling fingerprint ingestion, challenge generation, and verification.</li></ul>	

<b>Hull Tactical Market Prediction</b>   <i>LightGBM, Polars, Scikit-learn, Joblib, ONNX, PyTorch</i> —	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.	
<ul style="list-style-type: none"><li><b>Built high-performance feature engineering pipeline</b> using Polars for on-the-fly feature generation, processing 200+ financial indicators (economic, price, volume, sentiment, momentum, derivatives, intermarket metrics)</li><li><b>Engineered 500+ derived features</b> including lag features (1-3 periods), rolling statistics (5-day, 21-day windows), and group-level aggregations across 8 market categories</li><li><b>Implemented stateful rolling buffer system</b> with deque data structures maintaining 252-day historical context, enabling chronological time-series predictions without data leakage</li></ul>	

## RESEARCH WORK

Research Publication: <i>"Enhancing Accessibility through Real-Time Scene Understanding &amp; Navigation for Visually Impaired"</i>	June. 2024 – Present
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<b>First Author, Published on TechRxiv.org (Preprint Server)</b>   DOI: <a href="https://doi.org/10.22541/au.176843166.60388360/v1">10.22541/au.176843166.60388360/v1</a>	
Co-authored with Dr. Narayan Kulkarni, Assistant Professor, Amity Institute of Information Technology (AIIT)	
<ul style="list-style-type: none"><li>Developed a <b>dual-stream deep learning framework</b> combining SSD-VGG16 and CRNN for real-time object detection and text recognition, <b>optimized for resource-constrained</b> mobile devices.</li><li>Validated system performance on 1,000+ real-world images across diverse lighting and environmental conditions, demonstrating <b>practical applicability for assistive navigation</b>.</li></ul>	

## 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