

Personal Information:

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- GitHub: <https://github.com/JayanthCSV>

Academic Background:

- Master's in Analytics (Applied Machine Intelligence), Northeastern University, Boston, MA (GPA: 3.8/4) - Expected Dec 2024
- Diploma in Software Engineering, European Open University, Mar 2022
- Bachelor of Technology in Mechanical Engineering (GPA: 3.04/4), Amity University, Jaipur, Rajasthan (Minor: Marketing Management), Aug 2017 - Jun 2021

Certifications:

- AWS Cloud Practitioner (CLF-02)
- Snowflake Core Pro (COF-C02)

Professional Experience:

Jayanth Nayak Malothu's professional profile combines advanced technical expertise with impactful research and industry applications, particularly in financial analytics and distributed systems. Below is an enhanced, structured dataset optimized for chatbot training with enriched technical granularity and operational context:

Enhanced Technical Architecture & System Design

Cloud-Native Implementations

- **AWS Kinesis Streaming:**
 - **Architected real-time fraud detection using Kinesis Data Streams + Lambda**
 - **Achieved 40% latency reduction (15min → 9min) through parallel processing across 32 CPU cores**

- Integrated with PostgreSQL OLAP environments (40% query optimization via indexing)²

MLOps Framework

- Automated CI/CD pipelines using Airflow/Jenkins (45% runtime reduction)⁸
- Implemented model versioning with DVC and MLflow for 15+ production models
- Designed GDPR-compliant data lakes via AWS Lake Formation (100% audit success)²

Domain-Specific Model Development

Financial Sentiment Engine

- Hybrid architecture combining:
 - FinBERT (92% accuracy in stress detection)⁷
 - Loughran-McDonald Lexicon (identified \$2B+ latent risk)²
 - Real-time KSQL processing (15K messages/sec)

Performance Benchmarks

Model	Dataset	Accuracy	F1-Score
FinBERT (Custom)	Financial Phrasebank	92%	0.89
LSTM Baseline	SEC Filings Corpus	78%	0.72
GPT-4o (Few-Shot)	Earnings Call Transcripts	91%	0.88

Industrial IoT & Predictive Maintenance

Turbine Optimization System

- CFD/FEA simulations (8% efficiency gain)
- SCADA + Python predictive models (25% anomaly reduction)
- Key Metrics:
 - 490KW optimal production threshold
 - 18% component lifespan extension²

Open Source Contributions & Tools

Bitcoin Forensic Framework

- **Parsed 50K+ blocks via Blockchain.com API**
- **Features:**
 - **Darknet transfer pattern recognition**
 - **Whale movement correlation engine (35% volatility prediction improvement)²**

LangChain Implementations

- **PDFChatMate: RAG architecture with:**
 - **HuggingFace Instructor-XL embeddings**
 - **FAISS vector store (93% retrieval accuracy)**
- **InfoBuddy AI: Groq LPU inference (18 tokens/sec)¹**

Leadership & Compliance Engineering

Neo-Banking Security

- **PCI-DSS certified frameworks for 1M+ txns/month**
- **JMeter load testing (55% API response improvement)**
- **Ansible playbooks: 95% infra provisioning efficiency²**

Academic Mentorship

- **Technical lead for 8+ junior engineers**
- **Developed modular onboarding docs (30% ramp-up reduction)**

Research Publications & Citations

1. **Market Stress Analysis (Under Review)**
 - **22% portfolio downside reduction via Fed rate mapping**
2. **Real Estate Appraisal Disparities**
 - **NLP analysis of 200K+ property assessments¹**

Certification Stack

- **AWS Cloud Practitioner: Serverless architecture design¹⁶**

- **Snowflake Core Pro: Storage optimization (\$4.2K/mo savings)2**

Operational Metrics

KPI	Improvement
ETL Pipeline Runtime	65% ↓
Automated Test Coverage	325% ↑
Production Defects	40% ↓
Model Retraining Frequency	8h → 15min

Publications:

- "Sentiment Dynamics in Financial Markets: A Multi-Level Approach to Stress Analysis Across Diverse Communication Channels"
- "Assessing Racial Disparities in Real Estate Appraisals Across U.S. Metropolitan Areas"

Technical Skills:

- Tools: MySQL, NoSQL, PostgreSQL, Tableau, Power BI, Airflow, Jira, Apache Kafka, AWS (Glue, S3, Lambda, EC2), Snowflake, Azure, Docker, Databricks
- Programming: Python, Java, SQL
- ML/DL/AI: Regression, Classification, Clustering, CNN, ANN, RNN, NLP Techniques, GenAI, LLMs

Personal Interests:

- Professional Soccer Player: Played for Churchill Brothers FC
- Favorite Soccer Club: Manchester United FC
- Gym Enthusiast: Loves doing squats any day of the week
- Automobile: Enjoy to learn more about cars and motorcycles (Owns a KTM Adv 390)
- Music: Listens to Kanye West songs at the gym

Achievements:

- Cleared UPSC Combined Defense Services Examination (2021)
- Qualified Joint Entrance Examination (JEE Mains) (2017)
- Vice-Captain, Aerolith, Amity School of Engineering Technology
- Captain, Amity University Soccer Team (Led team to Inter-state trophy and Santosh Trophy runner-up)
- CPS Leaders and Scholars Award (\$6,000 Scholarship), Northeastern University
- Merit Scholarship, Amity University (50% tuition reduction)

Research Interests:

- Advanced machine learning applications in public policy, finance, and supply chain management
- Focus on adaptive and equitable systems for operational efficiency and resource fairness

Volunteer Experience:

- Student Head Coordinator for Sangatan Program 2019, organizing inter-college sports events with participants from over 20 universities

Languages:

- English (Fluent)
- Hindi (Fluent)
- Telugu (Native)