

Eesh Khanna

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Portfolio: eeshkhanna.me

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TECHNICAL SKILLS

- **Languages:** Python, Java, JavaScript, SQL, HTML, CSS
- **Frameworks:** TensorFlow, Keras, PyTorch, Scikit-learn, LangChain, PennyLane, ReAct
- **Tools/Platforms:** Flask, Node.js, Express.js, ReactJS, MongoDB, MySQL, RESTful APIs, OAuth, Multer, Postman, Git

PROFESSIONAL EXPERIENCE

- **Software Developer Intern** October 2025 – Present
LumberFi, Bengaluru, India
Tech Stack: Java, Spring Boot, React.js, PostgreSQL
 - Developing a payroll management system for construction companies in Canada as part of the Canadian Payroll Team.
 - Building and integrating backend services with Spring Boot and frontend modules in React to streamline payroll operations and ensure compliance accuracy.
- **Summer Intern** May 2025 – July 2025
Dell Technologies, Bengaluru, India
Tech Stack: Python, Flask, ReAct Agentic AI Framework, LangChain, LangGraph, REST APIs
Engineered and deployed agentic AI workflows using the ReAct framework to automate complex supply chain processes, achieving a 70% reduction in manual intervention. Integrated intelligent agents into logistics platforms through MCP servers for real-time anomaly detection and system optimization, while collaborating with cross-functional teams to enhance agent behavior via test-driven development and iterative performance tuning.
- **Full-stack Development Intern** July 2024 – August 2024
ThirdEye-AI (A JBM Group Company), Gurugram, India
Tech Stack: Node.js, Express.js, MySQL, React.js, Multer
Developed a secure document management platform with robust file handling and role-based API access controls, strengthening data governance and reliability. Optimized backend performance by modularizing routes, refining SQL queries, and streamlining API endpoints, resulting in faster retrieval times and improved system maintainability.

PROJECTS

- **Disaster Reporting and Verification System**
ReactJS, NodeJS, ExpressJS, MySQL, Python, Flask, Scikit-learn, SBERT, Folium, Matplotlib
Link : disasterfront.vercel.app
Developed an end-to-end disaster verification pipeline integrating SBERT-based text embeddings, geospatial feature engineering, and ensemble classification models to detect misinformation across large-scale reports. Designed confidence-weighted evidence scoring and visualization modules, improving classification reliability and interpretability for real-time disaster response applications.
- **Quantum-Enhanced LSTM Forecasting Model**
TensorFlow, PennyLane, Python
Designed and trained a hybrid LSTM architecture optimized with a Quantum-Enhanced Adam optimizer for multi-year financial time-series forecasting. Leveraged PennyLane quantum circuits for parameterized gradient computation and adaptive learning rates, achieving a 7% improvement in predictive accuracy over classical baselines and demonstrating the potential of quantum-inspired optimization in sequential modeling.
- **Kepler-Based Unsupervised Detection of Anomalous Patterns in Complex Space Observation Datasets**
Python, TensorFlow, Scikit-learn, Pandas, Matplotlib
Developed an unsupervised anomaly detection framework for analyzing Kepler space telescope datasets. Implemented autoencoder and PCA-based dimensionality reduction to extract latent features and identify anomalous stellar activity patterns. Conducted extensive experimentation with clustering algorithms and reconstruction error thresholds, achieving high recall in detecting rare astrophysical events while maintaining model interpretability.

PATENTS AND PUBLICATIONS

- **A Multi-Modal Disaster Verification System Using Geospatial, Textual, and Real-Time News Analysis** *Application No.: 202511074034 A, Published: Aug 2025*
 - Invented a scalable multi-modal disaster verification system integrating geospatial analysis, NLP, and real-time news validation with an intelligent confidence-scoring mechanism, reducing false alarms and enabling rapid, cost-effective deployment in emergency response platforms.
- **Enhancing the Explainability of AutoML and Deep Learning Techniques for Lumpy Skin Disease Detection using Model-Agnostic Explainable AI** *In Communication*
 - Co-authored research integrating AutoML (TPOT) with deep learning models for early detection of Lumpy Skin Disease using epidemiological and geographical data. Incorporated model-agnostic explainability techniques (LIME) to enhance transparency, feature interpretation, and trust in AI-driven veterinary diagnostics.
- **Quantum-Augmented Forecasting Pipeline Integrating Sentiment Dynamics and Regime Modeling for Financial Markets** *In Communication, IEEE Transactions on Quantum Engineering (TQE)*
 - Authored a quantum-classical hybrid framework combining SBERT-based sentiment analysis, Hidden Markov Models, and LSTM forecasting optimized with a Quantum-Enhanced Adam algorithm. Demonstrated over 60% improvement in prediction accuracy and showcased the potential of quantum-inspired optimization for regime-aware, sentiment-driven financial forecasting.

EDUCATION

- **Bachelor of Technology (B.Tech) in Computer Science and Engineering**
Manipal University Jaipur
CGPA: 8.36
- **High School**
Delhi Public School, Vasant Kunj
Class 12: 90% Class 10: 87%

CERTIFICATIONS

- Data Structures and Algorithms in Java — NPTEL (IIT Kharagpur)
- Software Testing — NPTEL (IIT Kharagpur)