Nithin Ram Kalava

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Profile

Enthusiastic Data Scientist and Full-Stack Developer with a passionate focus on machine learning, crafting robust data pipelines, and developing intelligent technological solutions. Committed to leveraging cutting-edge technologies to transform raw data into meaningful insights while maintaining the highest standards of data privacy and security.

Portfolio - *nithinram.onrender.com*

Skills & Abilities

- Machine Learning & AI: TensorFlow, Deep Learning, NLP, Neural Networks
- Data Science: Python (NumPy, Pandas, Scikit-learn), R, Statistical Analysis
- Visualization: Tableau, Power BI, Matplotlib, Seaborn
- Languages: C, Java, Python
- Web Development: React.js, Next.js, JavaScript/TypeScript, HTML/CSS
- Database: PostgreSQL, MySQL, Oracle, MongoDB, Google Cloud, AWS (basic)
- Post-Quantum Algorithms, ML-KEM, ML-DSA
- Tools & Platforms: Git, Docker, Linux

Projects & Development Experience

PC BUILDING ASSISTANT PLATFORM | FULL STACK WEB APPLICATION

- Developed a Next.js web application with dual interfaces: a guided LLM-based chatbot for beginners and an interactive component selector for experienced users
- Implemented a machine learning-based recommendation system using collaborative filtering for PC parts, integrating with PostgreSQL for data management
- Built a compatibility verification engine analyzing multiple component attributes, ensuring reliable PC builds
- Utilized Ollama for local LLM integration, adding real-time streaming responses with custom prompts for technical guidance
- Tech Stack: TypeScript, Next.js, TailwindCSS, Python (scikit-learn), PostgreSQL, Ollama/LLM

POST-QUANTUM CRYPTOGRAPHY IMPLEMENTATION | NPM PACKAGE

- Developed 'pqc', a pure JavaScript library implementing NIST's post-quantum cryptographic standards (FIPS 203, 204, 205)
- Engineered high-performance implementations achieving **2,300+ operations/seco**nd for key generation in ML-KEM-768
- Published npm package garnering **330+ downloads** in first week of release
- Implemented lattice-based and hash-based cryptographic algorithms including optimized Number Theoretic Transform (NTT)
- Authored research paper analyzing implementation and performance characteristics

MATH MINUTE | ANDROID DEVELOPMENT

· Developed an engaging educational mobile app that gamifies basic mathematics practice
· Implemented Android Room Database for local data persistence and scoring system
· Engineered adaptive difficulty system using Java to maintain user engagement
· Created intuitive UI/UX with Material Design principles and smooth animations
· Features: Real-time scoring, performance analytics, multiple difficulty levels
· Technologies: Java, XML, Android Studio, SQLite, Material Design

LONDON BUS SAFETY ANALYSIS | TABLEAU, PYTHON

· Engineered comprehensive visualization dashboard analyzing London bus safety patterns
· Implemented advanced classification algorithms to categorize incidents by severity
· Created interactive route analysis tools and seasonal trend visualizations
· Impact: Generated actionable insights for safety improvements through data-driven analysis

Education

B.TECH. IN COMPUTER SCIENCE | 8.26 GPA | VVIT, GUNTUR, ANDHRA PRADESH

CLASS 12 | 2021 | 94.7% | SRI CHAITANYA JUNIOR COLLEGE, GUNTUR, ANDHRA PRADESH

SSC – CLASS 10 | 9.8 GPA | BHASHYAM HIGH SCHOOL, GUNTUR, ANDHRA PRADESH

Certifications

ADVANCED MACHINE LEARNING & AI

Deep Learning Specialization DeepLearning.AI (Dec 2024)
- Mastered CNN, RNN architectures and optimization algorithms
- Implemented production-grade deep learning solutions

Natural Language Processing Specialization DeepLearning.AI (Dec 2024)
- Developed advanced NLP models and transformer architectures
- Built practical applications using modern NLP techniques

TensorFlow: Advanced Techniques Specialization (Apr 2024)
- Custom training loops, advanced computer vision models
- Advanced model deployment and optimization

DATA ANALYTICS & ENGINEERING

Google Advanced Data Analytics Professional Certificate (Jul 2023)
- Advanced statistical analysis and predictive modeling
- Led multiple end-to-end machine learning projects

Google Business Intelligence Professional Certificate (Jul 2023)
- Developed ETL pipelines and data modeling solutions
- Created interactive dashboards and KPI tracking systems

IBM Data Science Professional Certificate (Jun 2024)
- Machine learning model development and deployment
- Advanced data visualization and statistical analysis

TECHNICAL EXPERTISE

Google Cybersecurity Professional Certificate (Jun 2024)
- Security information and event management (SIEM) tools
- Network security and incident response

Back End Development and APIs freeCodeCamp (Feb 2024)
- Built RESTful APIs and microservices
- Database integration and server-side development

CLOUD

Google Cloud Platform
- Profile: *cloudskillsboost.google/public_profiles/976be462-5d62-4194-8ddc-bd790ca5fa6b*
- Areas of Expertise: Machine Learning on GCP, Data Engineering, Cloud Architecture
- Completed 50+ hands-on labs

AWS Cloud platform
- AWS AIML Virtual Internship
- AWS Cloud Virtual Internship

Activities & Interests

Theaters and films, PC Building, Legos