

# Nithin Ram Kalava

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## PROFESSIONAL SUMMARY

Results-driven Data Scientist and Full-Stack Developer with expertise in machine learning, data engineering, and web application development. Demonstrated success in implementing post-quantum cryptographic algorithms, building intelligent recommendation systems, and creating accessible, high-performance applications. Proficient in leveraging cutting-edge technologies to transform complex data into actionable insights while maintaining the highest standards of security and user experience.

Portfolio - [nithinramkalava.is-a.dev](https://nithinramkalava.is-a.dev)

[Coursera public profile](#)

## Skills & Abilities

**Languages:** Python, JavaScript/TypeScript, C, Java, R, HTML/CSS, SQL

**Full-Stack Development:** React.js, Next.js, Tailwind CSS, Node.js, REST APIs

**Machine Learning & AI:** TensorFlow, PyTorch, Scikit-learn, Deep Learning, NLP, Neural Networks

**Data Science & Analytics:** Pandas, NumPy, Statistical Analysis, ETL, Data Modeling, Data Visualization

**Databases & Cloud:** PostgreSQL, MongoDB, MySQL, Oracle, AWS, Google Cloud Platform

**DevOps & Tools:** Git, GitHub, Docker, Vercel, CI/CD, Linux

**Specialized Areas:** Post-Quantum Cryptography, Cybersecurity, UI/UX Design, Accessibility, Performance Optimization

## PROJECTS & PROFESSIONAL EXPERIENCE

### CAREERPATH NAVIGATOR | FULL-STACK WEB APPLICATION – [take a look!](#)

- Architected and developed a comprehensive educational platform using Next.js 14, TypeScript, and Tailwind CSS
- Implemented responsive, accessible UI with Framer Motion animations for engaging user experiences
- Engineered complex data structures and algorithms for career matching and recommendation systems
- Optimized performance through code splitting, lazy loading, and image optimization techniques
- Deployed using Vercel with automated CI/CD pipeline and edge network for global content delivery
- Tech Stack: TypeScript, Next.js, Tailwind CSS, Framer Motion, React Hooks, Vercel

### PC BUILDING ASSISTANT PLATFORM | FULL STACK WEB APPLICATION

- Developed a dual-interface Next.js application combining LLM-based guidance and interactive component selection
- Engineered recommendation system using collaborative filtering algorithms and PostgreSQL for data management
- Built compatibility verification engine analyzing multiple component attributes for reliable PC configurations
- Integrated Ollama for local LLM deployment with real-time streaming responses and custom prompts
- 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/second for ML-KEM-768 key generation
- Published npm package garnering 330+ downloads in first week with comprehensive documentation
- Implemented lattice-based and hash-based cryptographic algorithms including optimized Number Theoretic Transform
- Authored technical paper analyzing implementation approaches and performance characteristics
- Tech Stack: JavaScript, NPM, Cryptography, Mathematics, Optimization Algorithms

## **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**

All certifications available for verification on LinkedIn and Coursera Public Profile

### **CYBERSECURITY & IT**

Google Cybersecurity Professional Certificate (Jun 2024)

Google IT Support & Google IT Automation with Python (Aug-Nov 2024)

### **ADVANCED MACHINE LEARNING & AI**

Deep Learning Specialization - DeepLearning.AI (Dec 2024)

Natural Language Processing Specialization - DeepLearning.AI (Dec 2024)

TensorFlow Advanced Techniques Specialization (Apr 2024)

### **DATA ANALYTICS & ENGINEERING**

Google Advanced Data Analytics Professional Certificate (Jul 2023)

Google Business Intelligence Professional Certificate (Jul 2023)

IBM Data Science Professional Certificate (Jun 2024)

### **TECHNICAL EXPERTISE & CLOUD**

Back End Development and APIs - freeCodeCamp (Feb 2024)

Google Cloud Platform - 50+ hands-on labs completed

AWS Cloud Platform - AWS AIML & Cloud Virtual Internships

## **Activities & Interests**

Software Development, Data Science, PC Building, Cryptography, Theaters and Films, Legos