Lalith Kothuru

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SKILLS

Programming languages: Java, Python, C, C++, bash/terminal, R-script, Node.js, Assembly(RISC-V), Dart, Racket, bash, Rust
Systems Programming: Byte-level data manipulation, Parser internals, CLI/shell development, Linux, Ubuntu, vim.
Databases: PostgreSQL, MySQL, MongoDB, ISAR, Superbase, Firestone, Redis, Cassandra, AWS DynamoDB, and Elasticsearch.
Cloud Computing: Cloud architecture and design, Cloud networking, AWS, Google Cloud, Azure, Docker, Kubernetes, serverless
CI/CD Pipelines: Git/Github, Jenkins, Github Actions, bash script automations, Terraform, ssh tunneling, Infrastructure as Code.
ML and Data Science: Data cleaning and visualizing, Supervised & Unsupervised ML, RAG, MCP, Agent Orchestration, XGBoost
Security: Penetration testing, SQL injection, Cryptography concepts, Vulnerability scanning, Secure coding best practices, Networks

EDUCATION

Illinois Institute of Technology, Chicago, IL   May 2026
Bachelor of Science, Computer Science,
Masters of Science, Computer Science, (GPA: 3.89)
Minor in Data Science and **Specialized** in Cloud Computing, Data Analytics, and Database Systems

WORK EXPERIENCE

FULL-STACK DEVELOPER INTERN

M1 Finance, Chicago, IL   SEPT 2022 – DEC 2022
- Developed a Java program for financial management, utilizing personalized menu-based prompts to empower young people and improve their credit scores, which involves web scraping, various databases, and deployment.
- Led and facilitated routine meetings and planned project deliverables according to SCRUM and AGILE frameworks, showcasing excellent leadership and teamwork skills.
- Collaborated with stakeholders using various technologies (CICD, DevOps, Full Stack) to deliver a top-performing product.
- Our team went through multiple iterations of designing, implementing, and testing our product to arrive at our final Minimum Viable Product with three key features, namely data inputs, summary, and the insights sections..

ML RESEARCH ASSISTANT

Illinois Tech, Chicago, IL   AUG 2024 - PRESENT
- Collaborating on a cutting-edge medical image segmentation research project with Dr. Keigo Kawaji
- Developing and testing a UNET-based image segmentation model using PyTorch for MRI and ultrasound images
- Analyzing model performance metrics, focusing on Dice score optimization for early-frame detection
- Enhancing skills in PyTorch, machine learning algorithms, and image processing techniques
- Boosting advancements in machine learning applications for improved medical diagnostics

PROJECT EXPERIENCE

GlotFiles: The Internet's only Polyglot files generator (website-link)
- Engineered a specialized web utility to generate polyglot files, single files that are valid across multiple formats
- Mastered byte-level file manipulation and parser logic to produce functional, hybrid files via low-level data handling.

CollabEdge: A Real-Time Collaborative Editor (website-link)
- Architected a full-stack, real-time collaborative suite featuring a word editor, code editor, spreadsheet, and whiteboard..
- Built the backend with Springboot, WebSockets, OAuth2, and PostgreSQL to achieve sub-second data synchronization.

Reveal 82: Chicago Lead Contamination Risk Analysis (website-link):
- Developed a spatial regression ML model to predict lead contamination risk across 400k+ Chicago service lines.
- Built a public-facing risk assessment tool by analyzing complex water quality and property datasets.

Zebra Infiltrator: A Web Penetration Testing Tool (website-link):
- Built a full-stack penetration testing platform using React, Flask, Node.js, and Nmap to identify and report web vulnerabilities.
- Implemented automated payload generation, vulnerability scanning, and remediation insights, streamlining security assessments.

CERTIFICATES

- **AWS Cloud Practitioner** by Amazon
- **Advanced Data Modeling** by Meta
- **Networks and Network Security** by Google
- **Penetration Testing, Threat Hunting, and Cryptography** by IBM

HONORS AND ACHIEVEMENTS

- **Dean's List:** Recognized for academic excellence at Illinois Tech every semester.
- **Vice President** of the Cricket club, **Treasurer** in the Billiards club, **Secretary** in the Machine Learning club, and an active member of SIAM, ACM, and the Badminton club.
- $5,000 Grainger Computing Innovation Prize (3rd Place) (2025) for Oceans-Four DriftCast, competing against 150+ teams.