# VANI RAMESH

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## EDUCATION

**Bachelor of Science in Computer Science, University of Illinois at Urbana–Champaign** *Expected May 2027*
- **Coursework:** Systems Programming, Applied Machine Learning, Algorithms, Computational Linear Algebra, Advanced Databases
- **Recognition:** Course Assistant (Data Structures & Software Design Lab), IMC Women in Tech, Distinguished Engineering Scholar

## EXPERIENCE

**Five Rings**, **Incoming Winter Intern** *Jan 2026 – Feb 2026*

**Amazon**, **AI/ML SDE Intern** *May 2025 – August 2025*
- Designed and implemented **patent-pending** LLM inference system within a real-time bidding (OpenRTB) engine, utilizing **Redis** caching to process **40K+ TPS** with less than **5 microsecond latency**
- Engineered Apache Spark + AWS Step Functions pipeline to clean and transform **1TB+** daily logs into ML-ready dataset.
- Designed and executed **A/B experiments** across **10%** of user traffic, boosting return on ad spend and bid win rate.
- Built an adaptive **prompt-tuning + RAG pipeline** leveraging real-time auction feedback, improving LLM accuracy in production.

**Ameren**, **Data Engineering Intern** *January 2025 – May 2025*
- Delivered production ML forecasting pipelines on Databricks (PySpark + MLflow), cutting prediction error by **50%** (5% to 2.5%), **surpassing** vendor accuracy.
- Automated end-to-end **ETL workflows** across Bronze/Silver/Gold tables with SQL; orchestrated daily Databricks jobs.

**Ensaras**, **Full-Stack Developer Intern** *July 2024 – September 2024*
- Integrated **real-time anomaly detection** into GitLab CI/CD pipeline, deployed on AWS EC2, reducing incident response time by **20%**.
- Built Grafana dashboards monitoring **50+ metrics** and **automated backend job scheduling** with Celery and Django REST API, saving engineers **10+ hours/week** in manual work.

**Software Engineer Intern**, **Versogen** *June 2023 – May 2024*
- Built on-prem SQL database indexing **2,000+** R&D files, improving document search time by 50% across organization.
- Built full-stack **React + Node.js** dashboard with **Azure AD SSO**, streamlining lab data access for 20+ researchers.

## PROJECTS

**Natra (Founder & App Developer)**
- Designed, marketed, & developed cross-platform Flutter app, scaling to **1,100+ active users**.
- Helped users collectively save **2,000+** kg of $CO_2$, **300,000+** gallons of water, and **1,800+** kg of solid waste through real-time insights.

**Hesperus**
- Developed a **real-time ADS-B flight tracking system** with WebSockets + Raspberry Pi, enabling secure GPS-free monitoring.
- Optimized data ingestion and visualization pipeline to handle **live concurrent aircraft streams** with high reliability.

**GreenThread**
- Won ClimateBase Hackathon with an NLP ingredient parser (GPT-4 + Selenium + React), reducing **sustainable shopping** time.

## TECHNICAL LEADERSHIP

**Head of Software**, **Quant @ Illinois** *Aug 2025 - Present*
- Educated **200+ students** about financial markets, secured **$25,000** in sponsorships from HRT, Jane Street, Citadel, DRW, IMC

**Director of Technology**, **Engineering Open House** *May 2025 - Present*
- Developed accessible, responsive website for **50,000** attendees of the Midwest's largest STEM-fair

**Vice President**, **Undergraduate Research in Scientific Advancement** *Aug 2024 - Present*
- Directed programs helping **150** undergraduates connect with research labs, securing sponsorships from research labs.

**Technical Product Manager**, **Disruption Lab @ Gies** *Jan 2024 - Present*
- Led a team of 8 to develop an NLP-powered resume parser (LangChain + Pinecone DB), cutting screening time by 55%.

## SKILLS

**Languages:** JavaScript, C, C++, Python, Java, SQL, OpenGL, Dart, R, HTML/CSS
**Frameworks & Libraries:** React.js, Next.js, React Native, Node.js, Django, Databricks, MongoDB, TensorFlow, Flutter
**Tools & Databases:** AWS, PostgreSQL, MySQL, Docker, Azure, Git, Power BI, Tableau, Redis, Grafana, CI/CD