

SOPHIA XING



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sophiaxing.com

EDUCATION

Rice University

Expected May 2027

B.A. in Computer Science, B.A. in Mathematics, and Minor in Business

Houston, Texas

- **Relevant Coursework:** Computer Systems, Algorithms, Programming Languages, Computer Organization, Concurrent Programming, Probability & Statistics, Linear Algebra, Number Theory, Differential Equations, Financial Management

PROFESSIONAL EXPERIENCE

Amazon Web Services (AWS)

May 2025 – Aug 2025

Software Engineer Intern, EC2

Seattle, Washington

- Enhanced the **Elastic Load Balancer Console** for 1M+ customers by building an Infrastructure-as-Code aware interface.
- Designed a tag-based system to detect and map **Kubernetes** resources, improving cross-service navigation and visibility.
- Implemented IaC specific filters and indicators that cut resource discovery time by **30%** using React Query caching.
- Configured proactive warnings that reduced customer troubleshooting and strengthened infrastructure reliability.
- Developed a service layer integrating the **EKS API** via AWS SDK v3, optimizing data fetching and reducing API calls.
- Optimized caching and data retrieval for IaC managed accounts, improving console scalability and responsiveness.

Episode Six (Payment Technologies)

Jun 2024 – Aug 2024

Software Engineer Intern

Austin, Texas

- Optimized backend APIs for authentication and transactions, improving security and reducing support time by **40%**.
- Engineered validation pipelines to prevent incorrect payments and ensure reconciliation accuracy across merchant networks.
- Enhanced system scalability by streamlining backend performance, cutting debugging time by **30%** and improving reliability.
- Integrated **3D Secure (3DS) OTP authentication**, strengthening transaction security and compliance with global standards.

AI Research

Nov 2022 – Aug 2023

Contributor on GPT Patent

Remote

- Built a **GPT-3**-powered query engine for medical databases, improving data retrieval speed from seconds to under **100 ms**.
- Developed a Transformer pipeline translating SQL queries into natural language, improving usability for nontechnical users.
- Fine-tuned an **LLM** on 10K+ hybrid medical queries, boosting answer accuracy and contextual precision by **~25%**.
- Implemented **approximate query processing** to skip full database scans, increasing scalability and system efficiency.

PROJECTS

Pillora: AI-Powered Pill Reminder App | *React.js, Node.js, Express.js, MongoDB, Redux Toolkit, OpenAI API*

Rice University Hackathon — 1st Place Healthcare

- Built a full-stack app delivering personalized medication reminders, prescription insights, and real-time tracking.
- Developed an **OpenAI**-integrated chatbot for medication queries with response validation and verified medical guidance.
- Optimized backend performance by refining API endpoints, restructuring database queries, and implementing caching.
- Designed an intuitive dashboard combining real-time analytics and AI insights to help users stay informed and on schedule.

LEADERSHIP

Rice Data To Knowledge Lab (D2K)

Mar 2024 – Mar 2025

Datathon Director

Houston, Texas

- Directed the **7th Annual Datathon**, increasing participation by **15%** and attracting **500+** students across local universities.
- Secured **\$30K** in corporate sponsorships through outreach to industry partners and effective event branding.
- Oversaw committees for track design, workshops, and publicity, coordinating a successful large-scale event.

Rice Computer Science Club

Sept 2023 – Present

Vice President

Houston, Texas

- Directed club operations, coordinating events and partnerships to strengthen engagement within Rice's CS community.
- Led mentorship programs connecting underclassmen with professors and peers for academic guidance.
- Secured sponsorships from top tech companies by leading outreach and fundraising, supporting events for **400+** members.

TECHNICAL SKILLS

Languages: Python, Java, C++, JavaScript, TypeScript, SQL, Go, C, Bash, Swift, Haskell, HTML/CSS

Frameworks & Libraries: React.js, Next.js, Node.js, Express.js, Redux Toolkit, Tailwind CSS, Flask, Pandas, NumPy, Scikit-learn

Databases: MongoDB, PostgreSQL, MySQL, Cassandra, Redis

Cloud & DevOps: AWS, Docker, Kubernetes, Terraform, Git, GitHub, CI/CD, Linux, REST APIs, GraphQL, Postman