

Rahul Maligi

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Professional Summary

Full-stack software engineer with experience building **large-scale, production-critical systems** across cloud infrastructure, physical access control, and device platforms. Proven record of owning backend architectures, delivering secure **APIs**, and developing modern **React** user experiences used by thousands of businesses. Strong background in **AI, robotics, and data science**, bringing an engineering-driven, metrics-focused approach to building **reliable, high-impact products**.

Work Experience

Amazon

May 2023 — Present

Full Stack Software Development Engineer / Austin, TX / Full-Time

- Launched new physical access control device integration using **Java, Python, TypeScript**, and **AWS** implementing multi-service hardware support including device state management, lambda updates, and infrastructure changes
- Crafted and had **ownership** of the comprehensive access control management **backend architecture** with **API development**, including security validation, seamless property access, management, settings, and Wi-Fi capabilities
- Developing features for Ring users with **React** to support small and medium businesses with enhanced capabilities across multiple Ring devices and display data using new **dashboards**
- Spearheaded automation for Key Access Program to reduce overhead for onboarding and enabling third party package deliveries to businesses and properties saving **200+ hours** annually of manual labor across multiple teams
- Drove service modernization and increased **productivity over 100%** by migrating critical services, upgrading build systems and version updates, implementing service metrics, audit logging, and event handling across **20+ services**
- Redesigned and **created WiFi bridge** and **access point connectivity** for surround sound on devices on FireOS 8

Nelnet

May 2022 — May 2023

Data Science Intern / Remote / Full-Time

- Engineered a machine learning **model** to **predict the churn rate** of the company Allo with a **92% success rate**
- Pioneered research into **ChatGPT** and **LLMs** in email automation to **reduce communication costs** by **38%**
- Architected internal document-based AI chat models using **pandas** and **scikit-learn** to assist in data lookup

University of Texas at Austin

January 2022 — June 2023

Robotics and Computer Vision Undergraduate Researcher / Austin, TX / Part-Time

- **Improved conflict-based search** algorithm to succeed with constrained environments, social forces, and physics
- Programmed **face id, monocular depth estimation, and navigation** system with ROS to allow the robot to identify individuals, and lead them from source to destination using Tensorflow, OpenCV, and Pandas
- **Invented frontier exploration** algorithm with RL and integrated with **Boston Dynamics Robotic Dog Spot**

Root Translation

January 2022 — January 2023

Full Stack Engineer / Austin, TX / Part-Time Contract

- Integrated **text to speech** for **61 languages** by connecting to **Microsoft Azure Cognitive Services API**
- Separated languages into dialects **to account for 121 different regions** using C#
- **Improved accuracy of translations** for medical terms by **20%** to prevent misinterpretation of medical care

Skills & Qualifications

- **Languages:** Java (8 yr), C/C++ (7 yr), Python (7 yr), SQL (5 yr), JavaScript (5 yr), HTML (5 yr), C# (3 yr)
- **Operating Systems:** Windows, macOS, ChromeOS, Linux, FireOS, Android
- **Tools:** AWS, Microsoft Azure, Git, GitHub, Jira, Confluence, BitBucket, Atlassian, Gerrit, MS SQL Server
- **Frameworks:** React, Node.js, Flutter, Firebase, Flask, MySQL, Blazor, Microsoft .NET, Neptune GraphDB
- **Libraries:** TensorFlow, Keras, PyTorch, scikit-learn, OpenCV, ROS, pandas, Kaldi, CUDA/cuDNN
- **Soft Skills:** Highly adaptable, fast learner, strong ownership, bias for action, thrives in fast-paced environments

Education

University of Illinois at Urbana-Champaign – Masters in Computer Science

May 2024 — May 2025

- Specialized in artificial intelligence (AI), machine learning, and data science

GPA: 4.00

University of Texas at Austin – Bachelors in Computer Science

August 2021 — May 2024

- Specialized in full stack software engineering and robotics

GPA: 3.80

University of Texas at Austin – Minor in Applied Statistical Modeling

August 2021 — May 2024

- Specialized in data visualization, statistical modeling, and data science

GPA: 4.00

Publications

- R. Chandra, R. Maligi, A. Anantula and J. Biswas, "SocialMapf: Optimal and Efficient Multi-Agent Path Finding With Strategic Agents for Social Navigation," in IEEE Robotics and Automation Letters, vol. 8, no. 6, pp. 3214-3221, June 2023, doi: 10.1109/LRA.2023.3265169.