

# Sachin Makaram

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Data Engineering · Cloud Scale · Security & Threat Intelligence · Enterprise Deployment

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## EXPERIENCE

**Microsoft · Azure Resource Reporting** | Software Development Engineer II 2024 – Present

- Designed and scaled anomaly detection pipelines processing 30+ TB/day of MS Graph, EWS, DNS, and Key Vault telemetry across 50M+ tenants, enabling Threat Intelligence teams to detect and remediate large-scale security threats at global scale.
- Architected Microsoft's first real-time Web Endpoint Inventory cataloging all publicly accessible FQDN-based endpoints across Azure, enabling continuous vulnerability scanning and significantly reducing Microsoft's attack surface.
- Led development and deployment of an Icm Copilot for the team's on-call workflow — onboarding team context onto Microsoft's incident management platform so that when an incident fires, Copilot automatically runs an investigation and delivers a root cause analysis with mitigation steps before the on-call engineer is paged.

**Microsoft · Azure Front Door** | Software Development Engineer II July 2021 – 2024

- Built server-side and client-side availability monitoring services for Azure Front Door CDN, ensuring SLA compliance for global enterprise traffic at one of the world's largest CDN networks.
- Leveraged client-side availability monitoring to detect reduced availability across Ukrainian edge locations — DDoS prevention and detection services enabled real-time traffic redirection away from impacted regions, maintaining SLA for enterprise customers during live network disruptions.

**American Express** | Software Engineer II Aug. 2018 – May 2021

- Built the core Spark reconciliation job processing petabytes of transaction data across data centers to meet Network Transaction Repository compliance standards for global AmEx merchant partners.
  - Designed a real-time rule change notification system streaming credit risk decision updates across AmEx's global platform, demonstrating expertise in low-latency, high-reliability event-driven architectures.
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## PROJECTS

**Repeat** Discovery-to-loyalty platform connecting diners to local restaurants. Restaurants receive AI-generated insights on marketing campaigns and promotions that drive engagement. Diners earn rewards across all their favorite restaurants in a single app.

**Chorus** AI-powered hedge fund that leverages semantically correlated prediction markets to identify signal across financial instruments and place high-conviction bets. Uses large language models to surface non-obvious correlations in market sentiment, news, and structured data to generate alpha at scale.

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## TECHNICAL SKILLS

**Languages & Frameworks:** Python, Java, TypeScript, React, Go, C#, SQL

**Data & Streaming:** Apache Spark, Kafka, distributed data pipelines, petabyte-scale processing

**Cloud & Infrastructure:** Azure (Front Door, Resource Graph, MSGraph), AWS (Cloud Practitioner certified)

**Security & Observability:** Threat intelligence pipelines, anomaly detection, attack surface reduction, SLA monitoring

**AI & ML:** MCP (Model Context Protocol), ML applications, AI-integrated product development

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## EDUCATION

**University of Washington** · M.S. Computer Science and Engineering · GPA 3.8 2023 – 2026

**Coursework:** Applications of AI, Machine Learning, Security Engineering, Database Management Systems, Software Entrepreneurship, Computer Graphics, Human-Centered Design Engineering

**University of Arizona** · B.S. Computer Science 2016 – 2018

**Coursework:** Operating Systems, Software Engineering, Data Structures, Algorithms, Data Visualization, Object-Oriented Design