

Mohammad Haider

Backend Software Engineer

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SUMMARY

Software engineer with 4 years of experience building correctness-sensitive production systems, analytics infrastructure, and internal engineering tools at Microsoft and the University of Virginia. Owned projects from ambiguous requirements through implementation, validation, deployment, and operational support.

EXPERIENCE

University of Virginia | Data Analyst

May 2025 - Mar 2026

- Owned Tableau analytics products for institutional stakeholders from discovery through implementation, deployment, and ongoing support.
- Translated ambiguous operational questions into SQL-backed metric definitions and decision-support dashboards.
- Collaborated with colleagues to investigate Tableau performance bottlenecks using telemetry, informing optimization work that improved organization-wide dashboard load times by approximately 20%.

Microsoft | Software Engineer - Data & Analytics

Jul 2021 - Jul 2024

- Migrated Microsoft's internal financial reporting platform from SSAS Multidimensional to Tabular with zero downtime, owning implementation, telemetry, production validation, and operational support.
- Extended automated financial-value reconciliation between legacy and replacement systems, preserving reporting correctness throughout the migration and improving data quality.
- Reduced representative filtering latency by up to 200x and user-visible Excel loading time by approximately 4x, measured through production telemetry and user reports.
- Built and maintained Azure-based financial reporting pipelines supporting business-critical planning and financial close operations.

Microsoft | Software Engineering Intern

Summers 2017, 2018

- Built internal engineering tools supporting reporting infrastructure and developer workflows across multiple engineering teams.

SELECTED PROJECTS

Indigo Circuit | Flask, DuckDB, dbt

- Built and operated a Railway-hosted analytics platform, owning nightly idempotent ingestion and a fail-closed shadow-database validation gate that preserves last-known-good data before atomic production swaps.

RareDex | Flask, PostgreSQL, OpenCV

- Built a card-scanning system with SQLAlchemy/Alembic and a layered identification pipeline that escalated across image preprocessing, collector-number OCR, and a 19,601-entry pHash fallback before price lookup and persistence.

Social Vulnerability & Health Outcomes in America | Python, statistical analysis

- Designed and executed a census-tract analysis across approximately 73,000 tracts, testing relationships between 16 CDC vulnerability indicators and 36 health outcomes through correlations and state-disparity comparisons.

TECHNICAL SKILLS

Languages: C#, Python, SQL, Java, R

Data platforms: DuckDB, dbt, Azure Data Factory, Azure Data Lake, SSAS Tabular

Analytics: Pandas, NumPy, Tableau, Power BI

Engineering: Flask, PostgreSQL, SQLAlchemy, REST APIs, Git, Azure, monitoring

EDUCATION

Virginia Tech | B.S. Statistics