

Mohammad Haider

Software Engineer | Data systems, language models & simulation

hi@mhaider.dev | mhaider.dev | github.com/haidmoham | linkedin.com/in/haidmoham

Software engineer with Microsoft and University of Virginia experience. Owns production data systems and migrations; builds language models, analytics products, and simulation software.

PROFESSIONAL EXPERIENCE

University of Virginia

May 2025 - Mar 2026

IT Analyst Intermediate, BI Developer

Charlottesville, VA

- Owned SQL-backed Tableau delivery from stakeholder interviews through deployment and maintenance; translated ambiguous operational questions into shared metric definitions.
- Reconciled purchase-order states across financial systems and built reporting that surfaced discrepancies and their financial impact.
- Reduced organization-wide dashboard load times by **approximately 20%** through collaborative, telemetry-driven optimization.
- Built environmental and economic-impact reporting for the ReUSE Store that reached **over 400 views**; adapted Tableau views as operational workflows changed.

Microsoft

Jul 2021 - Jul 2024

Software Engineer I

Redmond, WA

- Owned a **zero-downtime** SSAS Multidimensional-to-Tabular migration; defined parity checks, monitored **four weeks** of pipeline behavior, and kept the legacy service available until cutover criteria were met.
- Wrote and deployed Azure Data Factory verification scripts for daily pipeline monitoring and legacy-to-Tabular data consistency.
- Validated downstream reporting workflows showing **up to 200x** faster filtering and **approximately 4x** faster Excel loading.
- Built a full-stack C#/.NET prototype for guided configuration, file generation, and output validation.

Microsoft

Summers 2017, 2018

Software Engineering Intern

Redmond, WA

- Built a C# service for OneDrive's recently used items feature; validated it in development.

SELECTED ENGINEERING PROJECTS | INDEPENDENT

Indigo Circuit | Tournament analytics platform

indigocircuit.app

- **Launched in April**; sustained automatic updates **within 24 hours** of every major tournament on database-hosting costs alone, then redesigned the frontend with progressive disclosure.
- Reduced refresh-related read blocking from ~9 minutes to under 1 second through shadow builds and atomic publication; preserved live data through two observed production rebuild failures.

LM Lab | Language-model engineering

github.com/haidmoham/lmlab

- Implemented an autoregressive PyTorch stack with BPE, multi-head causal attention, residual blocks, and learned/sinusoidal positions; completed **39 training runs** across three controlled studies.
- Measured 1- to 8-block models at 10,000 updates: mean held-out cross-entropy fell from **3.529 to 3.337 nats/token**; verified checkpoint restoration and recorded compute costs.

C-1N | Reinforcement learning & robotics

github.com/haidmoham/spider

- Built a six-legged MuJoCo robot and PyTorch PPO pipeline with policy-controlled gait cadence, checkpoint continuation, seeded evaluation, telemetry, and simulation-state replay.
- Raised mean-policy speed from 0.318 to 0.888 m/s on the same chassis; achieved zero falls in 24 five-second flat-ground evaluations, preserving weights, configurations, and traces.

TECHNICAL SKILLS

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

Production: C#/.NET, Azure Data Factory, SSAS Tabular, Azure Synapse, Kusto, Tableau

Project stack: PyTorch, DuckDB, dbt, Flask, MuJoCo, NumPy, pandas, Jupyter; Git, GitHub Actions, [Three.js](#), React

EDUCATION

Virginia Tech | B.S. in Statistics

2021