Mohammad Haider

Software Engineer | Language models, evaluation & research software
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Software engineer with Microsoft and University of Virginia experience. Combines production-systems ownership with language-model implementation, controlled evaluation, and simulation engineering.

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 that guided configuration, generated configuration files, and validated output.

Microsoft
Summers 2017, 2018

Software Engineering Intern
Redmond, WA

- Built a C# service that identified each OneDrive user's most recently used items for a product UI feature; validated the service in development.

SELECTED ENGINEERING PROJECTS | INDEPENDENT

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.
- Scaled from 1 to 8 transformer blocks: mean held-out cross-entropy fell from **3.529 to 3.337 nats/token** at 10,000 updates; measured parameter and 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, evaluation, telemetry, and replay; archived weights, configs, and traces.
- Raised mean-policy speed from 0.318 to 0.888 m/s on the same chassis; the final checkpoint completed 24 five-second flat-ground evaluations with zero falls.

TECHNICAL SKILLS

Languages: Python, C#, SQL, R
ML & simulation: PyTorch, MuJoCo, NumPy, pandas, Jupyter
Systems: C#/.NET, Azure Data Factory, SSAS Tabular; Git, GitHub Actions

EDUCATION

Virginia Tech | B.S. in Statistics — 2021