

CONOR SCHEIDT

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EDUCATION

B.S. in Applied Mathematics & Computer Science

Expected June 2029

Northwestern University

Evanston, IL

- **Relevant coursework:** Databases (CS 339); Data Structures & Algorithms (CS 214); Operating Systems (CS 343); Linear Optimization (IEMS 450-1); Introduction to Artificial Intelligence (CS 348).

High School Diploma, GPA: 4.0/4.0

June 2025

Phillips Academy

Andover, MA

- **Relevant coursework:** Computer Science Research; Multivariable Calculus; Differential Equations; Linear Algebra; Abstract Algebra & Number Theory; Fluid Mechanics; Special Relativity; Modern Physics.

EXPERIENCE

Quantitative Developer

Sept. 2025 – Present

Northwestern Financial Technologies

Evanston, IL

- Develop and operate a live Kalshi event-futures trading bot that powers the club's live-trading experiments, and contribute to its full limit-order-book market simulator (up to 20k orders/s); collaborate weekly on algorithmic trading, market microstructure, and exchange design.

Undergraduate Researcher

June 2024 – Sept. 2025

Gingrich Group, Northwestern University

Evanston, IL

- Built interactive web simulators for reaction-diffusion and tensor-network stochastic chemistry models, turning research code into browser-based tools used by 100+ students in CHEM 171.
- Engineered reproducible analysis dashboards and data pipelines around simulation workflows, streamlining analysis for graduate researchers and supporting NSF-funded outreach in non-equilibrium statistical mechanics.
- Re-architected parameter-sweep and sampling pipelines on Northwestern HPC clusters, cutting wall-clock time for standard workloads by roughly 80% via vectorization-friendly kernels and batch job orchestration.

Undergraduate Researcher

Jan. 2023 – Feb. 2024

AquaLab, Northwestern University

Evanston, IL

- Designed and implemented **Plankton**, a massively distributed Python/Rust/MongoDB framework that maps site- and DNS-level telemetry at Internet scale to surface privacy and security practices affecting data-protection compliance.
- Deployed Plankton on **AWS EC2** to ingest 500M+ HTTP requests across 100k+ domains, delivering IRB-approved datasets reused across multiple AquaLab measurement studies.
- Modeled and indexed Internet-scale telemetry in MongoDB and automated dataset validation and cleaning, reducing manual review effort by >90% while keeping multi-source data query-ready for downstream analysis.

PROJECTS

Basalt — Native-Rust Git Server & Frontend | *Rust, git, SSH, QUIC/HTTP3*

Jan. 2026 – Present

- Building **Basalt**, a self-hostable GitHub alternative written from scratch in Rust (no shelling out to `git` or `OpenSSH`): a complete Git server compatible with stock `git` clients over both HTTP and SSH, plus a fast, zero-JavaScript web UI for browsing code, commits, diffs, and history.
- Hand-built the performance-critical layers—the Git transfer protocol, a content-addressed object store with a custom cache and invalidation layer, and atomic transactional ref updates for safe concurrent pushes—and tuned the system end-to-end with zero-copy streaming, HTTP/3, and a profile-guided (PGO/BOLT) build.

Princeton Soccer Robotics | *C++, Python, Embedded Systems*

Jan. 2024 – Feb. 2025

- Programming lead for a RoboCup-style autonomous soccer team, building embedded control and strategy software in C++ and Python for multi-robot coordination under tight real-time constraints.
- Built simulation and analytics tools for possession and shot-quality metrics and tuned control algorithms; robots placed **1st at U.S. Nationals Open League 2024**, **1st and 2nd at Nationals Light Weight League 2024**, and **2nd at World Championships 2023**, with multiple engineering design awards.

TECHNICAL SKILLS

Languages: Python, SQL, C/C++, Rust, Go, Julia, Java, JavaScript/TypeScript, LaTeX

Data & Databases: PostgreSQL, SQLite, MongoDB, pandas, NumPy; ETL, data modeling & query optimization

Cloud & Systems: AWS (EC2), Docker, Linux, Git/GitHub; distributed systems, HPC & batch orchestration

Other: Performance profiling & optimization; open-source contributor to Plankton, Flox, and the Rust ecosystem