Connor Sicheri

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Education

University of Toronto Toronto, ON
B.Sc., Computer Science Specialist; Major in Mathematics *Sept. 2022 – May 2026*
- **GPA: 3.99 (95% overall)**; Dean's List Scholar
- Awards: Alen Milne McCombie Award; J.S. Mclean Scholarship

Experience

Software Engineer May 2025 – Current
League Inc. — Backend Developer *Toronto, ON*
- Onboarded embedded client tenants end-to-end (config, infra, validation) to streamline setup and reduce manual toil.
- Migrated backend features to new internal tooling with modular YAML-defined components and typed resolvers.
- Implemented **Go** data resolvers that simplified frontend–backend integration and cut redundant queries.
- Extended **JWT** auth with tenant-specific claims to support per-tenant unique identifiers in the datastore.
- Partnered with design, product, and platform to verify releases across staging, UAT, and production.

Machine Learning Research Intern May 2024 – Sept. 2024
The Hospital for Sick Children — Lab of Dr. Mike Tyers *Toronto, ON*
- Awarded **Undergraduate Research Opportunity Program** scholarship.
- Built a protein design pipeline integrating RF Diffusion and AlphaFold2 to generate **100K+** miniprotein binders.
- Used ProteinMPNN for sequence redesign and optimized AlphaFold2 on HPC clusters, reducing runtime by **80%**.

Bio-Informatics Research Intern May 2023 – Sept. 2023
Lunenfeld–Tanenbaum Research Institute — Lab of Dr. Anne-Claude Gingras *Toronto, ON*
- Applied ML to **mass spectrometry** (BioID) datasets to detect novel interactors and prioritize candidates.
- Developed clustering approaches to suppress contaminant profiles and improve downstream proteomics reproducibility.

Sci-High Internship July 2022 – Sept. 2022
Lunenfeld–Tanenbaum Research Institute — Lab of Dr. Anne-Claude Gingras *Toronto, ON*
- Completed competitive research internship focused on wet-lab foundations and data workflows.
- Practiced cell culture techniques and **large-scale data** organization/curation.

Projects

User-Level Preemptive Threading Library (C; synchronization, OS) Sept. 2024 – Nov. 2024
- Implemented user-level threads with **preemptive scheduling** (round-robin, priority).
- Built spin locks to maintain atomicity of shared data under concurrent workloads.
- Outlined multi-level feedback queue scheduling for future scaling and fairness.

Protein Sequence Redesign Pipeline (Python, Bash, ML) June 2024 – Aug. 2024
- Automated redesign using HHblits, ProteinMPNN, and AlphaFold2 on SickKids HPC.
- Generated **100K+** candidate sequences; iterated for improved **thermostability** and **solubility**.
- Optimized AlphaFold2 integration to enable high-throughput structure prediction.

Technical Skills

Languages: Python, Java, Go, C, C++, R, Bash, SQL
Tools: Git, Docker, VS Code, JetBrains, Eclipse, Slurm/HPC, kubernetes, terraform, GCP
Libraries/Frameworks: PyTorch, NumPy, pandas, Matplotlib

Interests

Algorithm Design; Computability Theory; Algebraic Topology; Secure Systems & Privacy