Oliver Hiltz-Perron

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Professional Summary

Computer Science student with 3+ years of AI research and data analysis experience. Led cross-functional teams developing NLP algorithms in government bill analysis. Expertise in Python, machine learning, and cybersecurity protocols with a proven track record of implementing secure, scalable solutions.

Technical Skills

Programming & AI/ML:	Python, React, PostgreSQL, TypeScript, Scikit-Learn, NumPy, OpenAI API, NLP
Web & Cloud Technologies:	Git/Github, HTML/CSS, RESTful APIs, Amazon Web Services, Docker
Data & Analytics:	Tableau, Pandas, Risk Assessment, Statistical Analysis

Education

Queen's University, Kingston, Ontario, Canada — September 2023 - 2027
Bachelor of Computing (Honors Program)
Queen's AI Club (QMIND) - Project Manager — 2024-2025

Experience

University of Michigan SSW — April 2025 - Present
AI Research Intern
- Developing NLP algorithms for legal document analysis, improving Statement of Facts and keyword efficiency
- Built AI-driven paper review system with role-based access controls, enhancing research productivity for 50+ faculty and students across the University of Michigan's SSW program

Parallel 42 — January 2023 - August 2024
Research Assistant & Data Solutions Intern
- Led development of Python-based fraud detection system for Retraction Watch (published 2021), analyzing academic publications and identifying 200+ fraudulent papers with 95% precision
- Managed cross-functional research projects spanning 2 years, delivering data-driven solutions that improved process efficiency by 40% across multiple research domains

YMCA — April - August 2024
Lead Camp Counselor - Youth Volunteer Corps
- Supervised 10 campers (ages 11-17) and 2 junior counselors weekly, coordinating volunteer activities with 15+ community organizations including Food Gatherers and local nonprofits
- Developed a comprehensive scheduling system and led activities helping 100s of people

Key Projects

Full-Stack Secure Web Application — 2025
- Built comprehensive academic research platform with React frontend, Supabase backend, and Python data processing pipeline managing 10K+ faculty publications with semantic search capabilities
- Developed automated ETL system processing CrossRef and PubMed APIs, implementing data deduplication algorithms achieving 95% data accuracy across multiple academic databases
- Integrated AI-powered research analytics using Model Context Protocol (MCP) server, enabling semantic publication search, faculty collaboration network analysis, and research trend discovery with sub-500ms query response times
- Implemented secure authentication with role-based access controls and database row-level security, supporting multi-faculty research portfolio management and citation analysis workflows

AI-Powered Government Bill Analysis & Risk Assessment — 2023-2024
Queen's AI Club (QMIND) - Project Manager
- Led 7-member interdisciplinary team developing NLP algorithm for government bill analysis, achieving 85% accuracy in threat identification and producing streamlined public summaries using natural language
- Implemented advanced text processing with RAG, reducing bill analysis time from 1 hour to 5 minutes while maintaining accuracy.