

Sa'ad Farooq

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EDUCATION

University of Waterloo

Bachelor of Mathematics, Combinatorics and Optimization

Relevant Coursework: Logic and Computation, OOP, Elementary Algorithm Design, Optimization, Statistics.

Waterloo, Ontario

Sept. 2023 – Present

EXPERIENCE

Operations/Technical Lead

EdVisingU

Jan 2026 – Present

Pickering, Ontario

- Built and deployed AI-driven automation workflows using Claude Code and n8n, streamlining repetitive operational tasks and improving efficiency.
- Developed intelligent agents to enhance data processing, support decision-making, and integrate seamlessly into existing business processes.
- Documented design, implementation, and impact of automation solutions, including demonstrations of AI agents performing operational tasks.

CS115 Instructional Support Assistant

University of Waterloo

Sept 2025 – Dec 2025

Waterloo, Ontario

- Developed robust developer tooling for large codebases, including recursive-function detection, illegal API usage scanning, and semantic filtering of helper functions versus test-only code-handling edge cases such as lambda expressions, local scopes, and partial student submissions.
- Owned the full lifecycle of internal tooling, from requirements gathering and design through debugging, documentation, and deployment, collaborating with instructors and ISAs to evolve grading infrastructure and ship workflow improvements that were reused across assignments and future terms.
- Built a production-scale automated grading system in Python and Bash, integrating static code analysis, test-result parsing, and MarkUs CLI automation to process hundreds of student submissions per assignment with deterministic, reproducible grading outcomes.

IT & Data Analyst

Linamar Corporation

May 2024 – Aug 2024

Guelph, Ontario

- Surfaced actionable insights from large-scale manufacturing datasets using SQL and Python, directly informing decisions on production efficiency and supply chain performance.
- Rebuilt and extended Power BI dashboards tracking KPIs across production, quality, and logistics, reducing time-to-insight for operations and engineering teams.
- Translated ambiguous business requirements into technical specifications by partnering with cross-functional stakeholders across engineering, operations, and IT.

PROJECTS

Hospital Appointment Optimizer | Python, Pandas, XGBoost, Gurobi, Scikit-learn

Feb 2026 – Present

- Engineered a no-show prediction pipeline over 111k clinical appointments, performing temporal train/test splitting and rolling patient-level feature construction to prevent data leakage.
- Formulated two Gurobi LP/IP models, a knapsack-based reminder allocation model and a patient-slot assignment model, to maximize schedule utilization without overbooking.

Gurobi Graph Converter | Python, Gurobipy, Linear Programming, NetworkX

Jan 2026 – Present

- Developed a Python tool to convert graph problems into Gurobi-compatible linear programs, enabling automated optimization for transshipment and network flow problems.
- Streamlined LP formulation and analysis workflow, reducing manual errors and improving reproducibility for diverse graph instances.

TECHNICAL SKILLS

Languages: Python, SQL, R, C/C++, Bash/Shell, MATLAB, Racket, HTML/CSS

Libraries & Tools: Pandas, NumPy, Scikit-learn, XGBoost, Gurobi/Gurobipy, NetworkX, OpenCV, MarkUs CLI

Data & BI: Power BI, JupyterLab, Excel

Developer Tools: Git, GitHub, Linux, LaTeX, Valgrind, GDB