

# Kamal Yassin

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## EDUCATION

### Carleton University

B.S. Computer Science (AI & ML Concentration)

Ottawa, ON

Sep. 2022 – Expected Aug. 2026

## EXPERIENCE

### AI Engineer Co-op

Jan. 2026 – Present

Taskd.ai

Ottawa, ON

- Developed structured reasoning components for Taskd's neuro-symbolic AI platform, improving LLM output verification accuracy by 20%.
- Integrated symbolic computation with curated datasets to generate verifiable outputs for operational decisions.
- Prototyped LLM function-calling workflows translating natural-language queries into business logic, reducing manual processing time by 35%.
- Collaborated with engineers to iterate on knowledge-based AI prototypes and technical documentation.

### Database Administrator Intern

June 2024 – Aug. 2024

Al Bayanat

Amman, Jordan

- Administered and secured Oracle SQL databases through patching, backup automation, and monitoring, maintaining 99.9% system availability.
- Optimized SQL queries and scripts to improve performance for large-scale datasets and reporting workloads.
- Assisted DBAs in diagnosing production issues, helping decrease database-related incident resolution time by 30%.

## PROJECTS

### Firewater MARL Environment

Nov. 2025 – Dec. 2025

- | Python, PyTorch, Pygame
- Developed a cooperative multi-agent grid-world with hazards, switches, and partial observations.
  - Implemented MAPPO training with shared actor networks and a centralized critic, achieving 87.0% test success.
  - Created procedural level generation and policy visualization to test generalization on unseen levels.

### Insulin Pump Simulator (Tandem t:slim)

Mar. 2025 – Apr. 2025

- | Qt, C++, Medical Simulation
- Engineered a Qt/C++ simulator replicating insulin delivery and CGM monitoring using modular design.
  - Implemented safety-critical error handling, reducing simulated failures by > 30%.
  - Applied object-oriented principles to improve scalability and long-term maintainability.

### CNN for Digit Classification

Jan. 2025 – Jan. 2025

- | Python, TensorFlow, NumPy, Pandas
- Designed and trained a CNN achieving 97% accuracy on handwritten digit classification (MNIST).
  - Applied hyperparameter tuning and optimization techniques, improving accuracy by 12% over baseline.
  - Built an efficient end-to-end ML pipeline using Python libraries (NumPy, Pandas, TensorFlow).

### Event Management System

Nov. 2024 – Dec. 2024

- | Python, SQL, SQLite
- Designed a normalized SQLite many-to-many schema supporting multi-activity event registration for 500+ users.
  - Built a Python/Tkinter desktop system enabling activity search, signup, and attendee schedule tracking.
  - Enforced validation checks to prevent duplicate enrollments and ensure data integrity across 1,000 records.

## TECHNICAL SKILLS

**Languages:** Python, Java, C/C++, SQL, JavaScript/TypeScript, HTML/CSS

**Frameworks & Libraries:** React, Node.js, Astro, PyTorch, TensorFlow, NumPy, Pandas

**AI & LLM:** OpenAI API, Anthropic Claude API, Ollama, GitHub Copilot

**Developer Tools:** Git, Docker, Linux, VS Code, IntelliJ, Oracle SQL Developer

**Databases:** MongoDB, SQLite, Oracle SQL