

# Jeffrey Di Perna

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## EDUCATION

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### Queen's University

Kingston, ON

Bachelor of Applied Science **Major in Computer Engineering**

Expected May 2027

Relevant Coursework: Data Structures and Algorithms, Data Science, Object-Oriented Programming, Embedded Systems and Microprocessors, Operating Systems, Discrete Mathematics, Computer Architecture

## EXPERIENCE

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### Machine Learning Engineer

Kingston, ON

Queen's Machine Intelligence and Neuroevolution Design Club (QMIND)

Sep 2024- Present

- Developed **RAG-driven** instruction generation using **Python**, **piloted with 100+ patients** in clinical use
- Enabled self-serve clinician uploads and QR code delivery to improve information for post-surgical operation care
- Synthesized **generative AI** responses with scientific literature and patient medical data to ensure optimal patient guidance, achieving **89% accuracy** with physician recommendations

### Software Developer

Kingston, ON

Engineering Society Software Development Team

Sept 2025- Present

- Created a service that analyzes resume structure and keywords, **improving interview callback rates by 30%** in testing
- Leveraged **NLP** to analyze resumes and enhance effectiveness for ATS systems on a specific job posting
- Reduced resume editing time by **35 minutes** per user and integrated the project into Queen's official career services
- Maintained user data through **MongoDB** to ensure privacy for all students

### Systems Administrator

Mississauga, ON

Trillium Health Partners

Jun 2025 – Aug 2025

- Built virtual data center models in **Sunbird DCIM** to monitor **20+ server racks** in real time across multiple locations
- Executed hardware install/upgrade/decommission cycles to scale data centers for patient medical record storage
- Integrated **environment sensors for temperature and voltage** to improve response time for data center issues by **18%**

### External Relations Coordinator

Kingston, ON

Queen's Machine Intelligence and Neuroevolution Design Club (QMIND)

June 2025 – Present

- Coordinated cross-team efforts that **expanded QMIND's external network by 25%**
- Fostered lasting connections with alumni, mentors, and industry stakeholders to secure new opportunities

## PROJECTS

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### AI-Powered American Sign Language Recognition System

Sep 2024 - Mar 2025

- Engineered a deep-learning ASL gesture detection tool trained on **2000+ videos**, achieving **90% accuracy**
- Implemented **Convolutional Neural Networks (CNNs)** using **Python** and **supervised learning**
- Adapted 3D→2D CNN with temporal stacking, **cutting required compute by 62%**
- **First place** at Microsoft Firm Day Hackathon
- **Winner of the Social Impact Award** at the Canadian Conference for Artificial Intelligence

### HOOP Cards

Sep 2025 - Dec 2025

- Built a full-stack fantasy basketball application, **keeping interactions <200ms** using **C++** and **QT**
- Created a responsive system to manage **70+ user accounts** and data from **400+ NBA players** with **SQL**

## SKILLS

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**Languages:** Python, C/C++, Java, JavaScript, HTML/CSS, Assembly, MATLAB

**Libraries:** NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, Matplotlib, Hugging Face, Mongoose

**Frameworks:** React.js, Next.js, Flask, Qt

**Developer Tools:** Git, Docker, Linux, MongoDB, REST APIs, SQL, MongoDB