Ali Bekheet

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Summary

Engineer proficient in Python, C, C++, Java, and ML frameworks (PyTorch, TensorFlow), passionate about building scalable infrastructure for AI/ML platforms and supporting large language models. A detail-oriented, quick-learning problem-solver, eager to tackle complex AI infrastructure development, optimization, and deployment challenges.

Skills

Programming Languages: Python, C++, Java, C **Machine Learning Frameworks**: PyTorch, TensorFlow
Developer Tools: Linux Command Line, Git Command Line **Cloud Platforms**: e.g., AWS, Azure, GCP
Containerization & Orchestration: Docker, Kubernetes

Relevant Course Projects

Pricing American-Style Stock Options using ML - Thesis | *TensorFlow/Keras/Python* 2025
- Designed and benchmarked recurrent neural network architectures for American-style option pricing, selecting a hybrid LSTM-GRU model that incorporated engineered Option Greeks and cyclical time encoding to enhance directional accuracy to over 75% and reduce MAE by up to 84% versus baseline.

Refreshable Braille Reader | *Computer Vision/SOLIDWORKS/Arduino* 2024
- Developed a servo-driven Braille display integrating OCR-based text recognition, demonstrating advanced mechanical design, real-time control systems, and cross-disciplinary problem-solving.

Solar Cell Performance Evaluator | *Arduino/LabVIEW* 2024
- Designed and implemented an automated solar cell characterization system using LabVIEW and custom Arduino circuitry to analyze IV curves and extract key performance metrics through optical measurements.

Bound State Spectrum Analysis | *Python (NumPy, SciPy, Matplotlib)* 2023
- Developed a quantum state analysis tool using Python to model and visualize energy spectra through numerical eigenvalue computation, enabling bound state characterization for quantum computing applications.

Predicting Straight-Edge Diffraction using a Neural Network | *PyTorch* 2022
- Using Fresnel's mathematical model of predicting diffraction patterns, the neural network was trained with the noiseless theoretical data, prediction was accurate to 99.5%.

Employment

Vice President of Student Affairs May 2022 – April 2023
Engineering Society of Queen's University *Kingston, ON*
- Managed a $2.3M annual budget using cost-benefit analysis, resource allocation, and risk assessment techniques for Society groups and services, ensuring responsible financial stewardship and long-term viability.
- Delivered an organizational restructure by addressing inefficiencies, revising policies, and applying change management, expanding the leadership team and creating a scalable growth framework.

Education

Bachelor of Applied Science, Engineering Physics and Computing April 2025
Queen's University *Kingston, ON*
- Canadian Engineering Competition (CEC/CCI) Debate 2025, OEC & QEC Debate Winner 2025.

Volunteer Experience

World Scout Jamboree Bidder Feb 2024 – Aug 2024
Alliance Bid Team *Summit Bechtel Reserve, WV*
- Egyptian youth lead, Alliance Coalition bid for the 2031 World Scout Jamboree. The team comprised individuals from Kenya, Bangladesh, Ecuador, Egypt, and the US.
- The World Scout Jamboree is a global event held every 4 years, gathering around 50,000 participants from 174 National Scout Organizations (NSOs) for 12 days. Our bid, while not selected, was presented at the 43rd World Scout Conference held trienally.

Vice-President of Logistics Mar 2023 – Jan 2024
Ontario Engineering Competition *Kingston, ON*
- Planned and executed the logistics for the Ontario Engineering Competition with a budget of over 250,000 CAD and 500 attendees and volunteers.