Mostafa Deiab

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Education

Bachelor of Engineering in Computer Engineering Sep. 2019 - Dec. 2024

University of Guelph *Guelph, ON*

- Relevant Coursework: Data Structures, Algorithms, Operating Systems, Database Management, Networks, Computer Vision, Embedded Systems

Experience

Undergraduate Research Assistant Jan. 2021 – Present

University of Guelph - Advanced Manufacturing Lab *Guelph, ON*

- Developed a machine learning-driven defect detection system, achieving 96% accuracy in quality control of automotive parts.
- Reduced defective parts in an industrial paint line by 35%, resulting in significant cost savings.

Lab Systems Administrator Sep. 2019 – Dec. 2020

University of Guelph - Advanced Manufacturing Lab *Guelph, ON*

- Set up and managed a Linux-based file server, improving data accessibility for research projects by 50%.
- Designed custom-built computer systems, reducing downtime and improving overall lab performance.

Projects

Custom News Aggregator | *Python, AI* May 2024 – Present

- Developed an AI-powered software to aggregate and summarize daily news from various sources, tailored to user-specified topics. Implemented Web Scraping and NLP techniques to extract and summarize relevant news.

Advanced Computer Architecture | *Python, Deep Learning, AI* Jan. 2023 – Apr. 2023

- Benchmarked Artificial and Convolutional Neural(ANN, CNN) on Edge Server Architectures, improving inference time by 30%. Validating hardware accelerators (GPU, FPGA), optimizing AI-based applications by 25%.

Skills & Knowledge

Fluent: Machine Learning, Neural Networks, Deep Learning, Data Analysis, Data Visualization, Python

Proficient: Java, C/C++, TensorFlow, Keras, SQL, Pandas, NumPy, OpenCV, CI/CD Pipelines

Moderate: JavaScript, TypeScript, HTML/CSS, Bash, MATLAB, Agile, PHP, R, Flask, Django, GraphQL, REST APIs, Docker, Kubernetes, FPGAs, Network Security, Vulnerability Analysis, Threat Risk Assessment, OS Hardening, Perl, PCIe

Publications

On Edge Level: The Impact of Adopting Deep Learning Techniques on Server Design CCECE, August 2024

Deiab, M., Mehra, V., Shami, H., Bello, Y., and Refaey, A.

- Presented findings at IEEE Canadian Conference on Electrical and Computer Engineering (CCECE) 2024.
- Investigated hardware accelerators like GPUs and FPGAs for enhancing computational efficiency in Edge Server Design for Deep Learning models.

Certifications

IBM Data Analyst Professional Certificate Issued Jun 2023

Data Science, Data Visualization, Data Analysis *IBM (Coursera)*

- Developed a solid foundation in Data Science, mastering analytical techniques and methodologies to interpret complex data sets using Python.

Deep Learning Specialization Issued Aug 2024

Neural Networks, Convolutional Networks, Sequence Models *DeepLearning.AI (Coursera)*

- Mastered fundamental concepts of Deep Learning, including Neural Networks, CNNs, and RNNs. Optimized using frameworks like TensorFlow and Keras to tackle computer vision and NLP problems.