Edward Lin

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PROFESSIONAL EXPERIENCE

Software Engineer   Nov 2023 – Present
DAS Inc – Developer of DAS Trader   Markham, Ontario, Canada

- Independently designed and **built a GPU-accelerated rendering engine** from scratch using **C++**, **OpenGL**, and **GLSL**, replacing a 20-year-old CPU-based system, achieving a **15× increase in rendering speed**, **42% reduction in CPU utilization**, and enabling real-time visualization of high-frequency trading data.
- Leveraged **RenderDoc** for frame capture, shader debugging, and GPU performance analysis, identifying bottlenecks and optimizing render passes for maximum efficiency.
- **Developed multi-GPU support** with efficient context management, ensuring low-latency rendering across multiple GPUs and monitors for enhanced scalability.
- **Introduced multi-threaded and parallel rendering** from the ground up, enabling simultaneous real-time rendering of multiple stock charts with consistent frame rates under heavy data loads.
- **Optimized real-time stock data processing** by designing preprocessing logic from scratch, achieving **130K+ updates per second** and **reducing end-to-end latency by 26%**.
- **Collaborated directly with users** to translate real-world workflow feedback into visualization and usability improvements.

Software Engineer Intern   May 2021 – Apr 2022
Oracle Corporation   Toronto, Ontario, Canada

- Contributed to the **backend development** of **Oracle Responsys**, working closely with the team on a **large-scale codebase** that powers a leading cross-channel marketing automation platform.
- Developed and optimized **Java-based microservices** using the **Spring Framework**, collaborating on **6+ new features** that improved the efficiency of filtering millions of emails and SMS messages.
- **Improved the data filtering algorithm** and restructured data handling in existing code, reducing processing bottlenecks and achieving a **23% speed increase** for large dataset operations.
- Enhanced backend server reliability by **increasing unit test coverage by 15%**, using **JUnit** to improve code maintainability and minimize regression issues.
- **Resolved 12+ high-priority bugs** that caused filtering algorithms to perform unexpectedly and slow with large datasets, improving backend reliability and optimizing system performance.

SKILLS AND CERTIFICATION

Programming Languages: C, C++, Java, Python, JavaScript, R, Shell Scripting
Frameworks & Libraries: React Native, React.js, Node.js, Django, PyTorch, TensorFlow, OpenCV, OpenMP
Graphics & GPU Computing: OpenGL, GLSL, RenderDoc
Tools & Databases: Git, SQL, JUnit
AWS Certified Cloud Practitioner: Issued July 27, 2023 – Expires on July 27, 2026

EDUCATION

University of Toronto   Toronto, Ontario, Canada
Honours Bachelor of Science in **Computer Science** with a **Statistical Minor**   Sept 2018 – Nov 2023

- Associate Programs: **Focus in Artificial Intelligence**, **Focus in Web and Internet Technologies**

PROJECTS

Ontario Parks | Mobile Application   https://github.com/Edward9292/ontario-parks-app
- **Collaborated with Ontario Parks** to design and develop a mobile audio-tour app using **React Native** and **Node.js**.
- Implemented user authentication, cross-device data synchronization, and **Google Maps API** integration with real-time location tracking for context-aware audio content delivery.

CartoonGAN | Machine Learning   https://github.com/Edward9292/CartoonGAN/blob/main/report.pdf
- Developed a **Generative Adversarial Network (GAN)** using **Python**, **PyTorch**, **OpenCV**, and **NumPy** to transform real images into cartoon-style visuals
- **Fine-tuned the GAN architecture** and hyperparameters, **reducing training time by 18%** while maintaining high visual quality in generated images.