Evan Richardson

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Education

The University of British Columbia　　　　　　　　　　　　　　**September 2020 – May 2025**
Bachelor of Applied Science in Integrated Engineering - GPA 3.8/4.3　　　　　　　　　　*Vancouver, BC*

- Specializing in Computer Engineering and Mechanical Engineering.
- Relevant Coursework: System Software Construction, Data Structures and Algorithms, Applied Machine Learning, Deep Learning, Digital Systems and Microcomputers, Applied Electromechanics, Computational Fluid Dynamics.

Work Experience

Pratt and Whitney　　　　　　　　　　　　　　　**September 2023 – September 2024**
Software Engineer Intern　　　　　　　　　　　　　　　　　　*Longueuil, QC*

- Overhauled existing AWS Lambda functions to handle expanded metric requirements and updated data formats. Replaced iterative Excel/Pandas workflows with a batch-oriented Parquet/Polars approach, coordinating across teams for seamless integration. Achieved a 300% increase in processing speed and enabled more advanced downstream analytics.
- Architected a next-generation cloud system bridging ground servers, AWS (MSK, Kafka, Lambda, S3, EC2, Redshift, Glue), and Databricks to deliver actionable engine data analytics. Analyzed existing workflows to enable future large-scale cloud migration and expansion.
- Championed living in-code documentation using Sphinx Autodoc integrated with CI/CD pipelines to capture both new and existing systems for future expansion. Enhanced cross-functional and executive level understanding and accelerated onboarding of new employees and interns.
- Designed and implemented a tiered testing framework (unit, functional, end-to-end) for AWS Step Functions, automated with PowerShell and Pytest and integrated into Azure DevOps CI/CD. Accelerated code reviews and release approvals.

Lambton College Applied Research　　　　　　　　　　　　　**June 2023 – January 2024**
Game Developer　　　　　　　　　　　　　　　　　　*Remote, Part-time*

- Contributed to an Agile team building an Unreal Engine 5 game for the Aamjiwnaang First Nation. Leveraged C++ scripting and UE5 blueprints to develop core interaction, and menu systems, integrating culturally specific elements and ensuring an immersive experience tailored to community needs.

Milestone Environmental Contracting　　　　　　　　　　　**May 2022 – September 2022**
Project Coordinator　　　　　　　　　　　　　　　　　　*Langley, BC*

- Developed and implemented Quality Control Plans (QCP) for $5M mine remediation work packages, championing a custom PowerApps solution to streamline on-site QC data capture into standardized weekly reports.
- Analyzed and reported water-quality data from a batch treatment facility, leveraging Power Automate, Excel, and VBA to automatically generate and distribute stakeholder emails, ensuring timely communication and regulatory compliance.

Projects

MuraLine (Capstone Project, UBC) | *Python, Java, C++*　　　　　　　　　　**May 2025**

- A cable-driven painting robot designed to automate the outlining process for multi-story murals. MuraLine scales SVG artwork onto scanned wall surfaces through an intuitive UI, allowing artists to place, resize, and outline designs faster and cheaper, ultimately freeing them to focus on creative work.
- Leading software and firmware development including modifying open-source firmware with Platform IO, expanding a deprecated open-source pen plotter Java application, and integrating OpenCV image stitching and edge detection to accurately scan wall dimensions and obstructions and develop outline SVG designs.

Fair Ticket Price Regressor | *Python, Pytorch, SkLearn*　　　　　　　　　**December 2024**

- Built a from-scratch ticket price prediction pipeline to tackle inconsistent concert pricing by integrating messy, multi-source data from Ticketmaster and Spotify APIs, applying BERT embeddings to text fields, and employing classical regression models (Random Forest, XGBoost, SVM) . Achieved a mean absolute error of 8.52, showcasing the pipeline's real-world applicability despite skewed data distribution, and highlighting the power of modern NLP techniques.

Technical Skills

Languages: Python, C++, Java, PowerShell, SQL
Developer Tools & Processes: Git, CI/CD (Azure DevOps), Agile (Scrum/Kanban)
Technologies/Frameworks: AWS (Lambda, EC2, S3, CloudFormation, Resdhift, EKS), Apache Kafka, Docker, TensorFlow, PyTorch, Pandas, OpenCV, Firmware Development (Marlin, PlatformIO)