Andrew Munro-West

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KEY SKILLS

Languages:	Python, C++, C, Matlab, SQL, Javascript, Assembly, Verilog, RUBY
Libraries/Packages:	Pandas, NumPy, Matplotlib, Tensorflow, Sklearn, Tkinter
Dev tools:	Git, PostgreSQL, AWS, Node.JS, Jekyll
Software:	Microsoft Office, LaTex, Spice, Blender, Solidworks
Lab Skills:	DSA, OOP, ML, Digital Image & Signal Processing, Circuit design, Digital instruments, Soldering, 3D printing, Rapid Prototyping

EDUCATION

The University of British Columbia, GPA : 4.0 **Vancouver, BC**
Bachelor of Applied Science in Electrical Engineering with Distinction *June 2023*

EXPERIENCE

Cadex Electronics **Richmond, BC**
Research Software Engineer *Jan 2022 - Aug 2022*

- Adopted and reorganized several codebases for in-house research tools applying **OOP** principles and writing comprehensive documentation increasing organization, maintainability and ensuring smoother hand off
- Developed user friendly **data acquisition and processing** tools deployed to custom hardware streamlining testing procedures and reducing testing time from months to weeks.
- Researched and applied **machine learning** algorithms on gathered data, analyzing trends, improving accuracy scores, building pipelines and laying the foundations for new customer facing products.
- Wrote and integrated code to safely interact with **secure cloud databases** into existing projects facilitating efficient and safe data sharing and collaboration among team members.

PROJECTS

Movie Genre Classification using NLP *Nov 2022*

- A self-guided term project exploring multi-label genre classification of movies comparing accuracy metrics of several common machine learning classifier algorithms.
- Cleaned a dataset of 40,000 movies with over 100 unique genre tags using Natural language processing to remove redundant tags and stop words from the data set reducing the complexity of the task significantly.
- Compared the accuracy, training time, and perceived biases of random forest, logistic regression, and multinomial naive Bayes classification algorithms, determining the optimal choice of algorithm for the task to be multinomial naive Bayes.
- Recorded the findings and procedure in a comprehensive research report providing insights into the strengths and shortcomings of each algorithm for NLP classification.

PUBLICATIONS

Conference	Paper Title	Publication Date
PHM2023	"Electrochemical Impedance Spectroscopy and Machine Learning based Battery State of Health Estimation" **ieeexplore.ieee.org**	05 June 2023