Carter Blair
Website | github.com/cartgr | linkedin.com/in/carter-blair

EDUCATION

University of Victoria   Victoria, BC
B.Sc. Computer Science and Psychology, Minor in Philosophy   *Completed August 2022*
- Awarded NSERC USRA Grant, Summer 2021

Coursera
Completed Courses:
- Intro to Machine Learning in Production
- Fundamentals of Reinforcement Learning

EXPERIENCE

Junior Data Scientist   December 2022 – Present
NannyML
- Developed novel, linear time univariate and multivariate drift detection methods based on the Maximum Mean Discrepancy.
- Implemented standard drift detection methods in our open-source library, including Earth Mover's distance, Hellinger distance, Jensen-Shannon distance, and L-Infinity distance.
- Wrote documentation outlining the strengths, weaknesses and differences between various drift detection methods for continuous and categorical features. Developed experiments and visualizations to demonstrate these differences.

Data Science Intern | *PyTorch, FLAML, Docker*   July 2022 – November 2022
NannyML
- Processed and built models for many image, text, and tabular data sets in order to test and validate new monitoring features.
- Built and deployed an end-to-end model using Docker and Kubernetes to demonstrate product capabilities in real-world use cases to potential customers.

Teaching Assistant, Python/Java Programming   September 2020 – December 2021
University of Victoria   *Victoria, BC*
- CSC 110, Python Programming: Taught four 2-hour lab sessions per week and graded midterm and final exams.
- CSC 115, Java Programming: Co-lead three 2-hour lab sessions per week and graded assignments and exams.

Research Assistant | *MATLAB, LSL, Pandas*   September 2020 – December 2020
Applied and Theoretical Neuroscience Lab, University of Victoria   *Victoria, BC*
- Built software to remove artefacts from EEG data using ICA and refined data handling processes.

PROJECTS

Online Positive and Unlabeled Learning | *PyTorch, scikit-learn, SciPy, pandas*   September 2021 – Present
- Designed and implemented two algorithms for learning from positive and unlabeled data (PU-learning). The first can be used for online PU-learning. The second algorithm can be used for batch mode PU-learning and achieves state-of-the-art performance on Gaussian data. Supervised by Dr. Nishant Mehta and Dr. George Tzanetakis.

Emotional Response to Color, Trend, and Chart Type in Visualizations   May 2021 – Present
- Currently working on a manuscript regarding the influence of colour, data trend and chart type on the interpretation of data. Funded by the NSERC USRA grant and supervised by Dr. Charles Perin.

TECHNICAL SKILLS

Languages: Python, R, C++, CUDA, SQL, Java, C, MATLAB, JavaScript, LaTeX
Developer Tools: Git, VS Code, Jupyter Notebooks
Libraries: Tensorflow, PyTorch, FLAML, Scikit-Learn, sklearn Pipeline, SciPy, Pandas, NLTK, seaborn, D3.js
Applications/Systems: Excel, Lab Streaming Layer (LSL), PySpark, AWS, Tableau, Docker, Airflow, Kubernetes

COMMUNITY & LEADERSHIP

President   September 2019 – April 2020
UVic Neuro-Tech Club   *Victoria, BC*
- Built a system to play Mario Kart using an EEG.

President   September 2018 – December 2019
UVic Surf Club   *Victoria, BC*
- Organized monthly, 50-person trips to Tofino–to surf!