

CONNOR LILBOURNE

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EDUCATION, LANGUAGES AND SKILLS

Wilfrid Laurier University – Waterloo, ON

Honours Bachelor of Science (Computer Science) with Mathematics and Environmental Studies Minors

Languages: C, C#, Python, VBA, SQL Variants, DAX, PowerBI, CSS/Html, and Java

Skills: Agile Software Development, Blender, CAD, AWS Cloud Practitioner, Database Management, PowerBI

WORK EXPERIENCE

Data Analyst – LifeLearn Animal Health, ProSites, Guelph, Ontario

June 2024 – December 2024

- Applied Machine Learning/AI Recognition to profile customers improving the company's understanding on product usage across the customer base.
- Designed and implemented a convolutional neural network to analyze web traffic trends and identify bot data within Google Analytics and Matomo.
- Developed Power BI dashboards with integrated distribution models based on company needs and real-life trends, providing actionable insights and supporting data-driven recommendations.

Logistics Coordinator – HawkHacks/Konfer, Waterloo, Ontario

Sep 2023 – May 2024

- Supported one of Canada's largest hackathons, with 900+ participants, 35+ sponsors, 30+ speakers, and \$240k in combined cash and object prizes.
- Collaborated with the team to identify event requirements and manage logistics, including venue booking, catering, and food competitions ensuring smooth planning, implementation, and high-quality participant experience.
- Built and maintained relationships with external vendors to secure cost-effective, high-quality services for event execution.

Instructional Assistant– Wilfrid Laurier University, Waterloo, Ontario

January 2024 – April 2024

- Conducting lab sessions, answering student questions, and providing additional support to help students grasp complex concepts in the CP216 Introduction to Microprocessors course.
- Assisting in the grading process for labs by providing constructive feedback to aid academic development and collaborating with the Professor in a professional manner.

Emergency Instructor (Supply Teacher, Contract role) - BHNCDSB, Brantford, Ontario

May 2022 – June 2022

- Managed elementary school classes by teaching lessons based on curriculum standards to support continuous learning.
- Analyzed student achievement and prepared lesson plans to optimize student progress while maintaining accurate performance records.

Inclusion Specialist and Senior Counsellor - YMCA Wanakita, Haliburton, Ontario

June 2021 – August 2022

- Provided care and companionship for special needs campers by leading activities, assisting with mealtime, and aiding with hygiene routines.
- Applied Agile thinking principles to adapt to challenges on various wilderness out trips by testing new canoeing routes and keeping track of previous mapping errors.
- Utilized problem-solving skills by becoming familiar with specific needs of campers to adjust services to support campers.

PROJECTS

Data Mining Projects (Data Analysis/Data Cleaning/Big Data)

Languages and Frameworks: Python, Jupyter Notebook, Scikit-Learn, TensorFlow, NetworkX, Keras... etc

- BERT/LLM's, Tokenization, Stop Word Removal/Data Cleaning, Similarity Models, Pagerank.
- Developed a custom PageRank algorithm to evaluate the relative importance of web pages within a network, effectively addressing issues such as dead ends and spider traps.
- Designed and implemented a Large Language Model to analyze similarities between scientific paper titles and abstracts, enabling the clustering of research into thematic groups and revealing potential interdisciplinary opportunities for innovation.

Machine Learning Algorithms (Data Analysis/Data Cleaning)

Languages and Frameworks: Python, Jupyter Notebook, Scikit-Learn, TensorFlow, Keras

- K-NN, Linear Regressor, Neural Networks (Convolutional), Decision Tree Classification.
- Engineered machine learning models leveraging the MNIST Database as well as the Scikit-Learn library to classify authentic and fraudulent spam emails. Developed algorithms for digit recognition in images with a 98% accuracy.

AI Algorithms (Puzzle Solving / Solution Based)

Languages and Frameworks: Python, Jupyter Notebook, C Programming

- Built an A* algorithm for solving the 8/15-puzzle's by conducting a comparative analysis of heuristics.
- Created an AC-3 (Arc Consistency) algorithm built with backtracking to solve any 9x9 sudoku puzzle.
- Produced a N-Queens Constraint Satisfaction Problem Algorithm that can find the greatest number of queens to fill a 2 million x 2 million chess board so that they will not be able to attack each other based on classic chess rules.

Database Management System

Languages and Frameworks: SQL, MySQL Workbench, Java

- Developed a Database Management System using primary key, foreign key relationships in MySQL Workbench based on an initial ER diagram while reducing redundancy and increasing optimization of the system using normalization techniques.

Block Cube Computer Game

Languages and Frameworks: Unity, C#, Visual Studio Code, Blender, Github

- Outlined a project plan for a runner style game by considering stakeholder requirements, developing UML diagrams and Gantt charts to remain organized and dealing with merge conflicts.
- Outlined a project plan by developing UML diagrams while evaluating prototypes by implementing user feedback, developing test suites, and debugging errors to optimize performance and ensure stakeholder requirements are met.

AWS Hosted E-Commerce Website

Languages and Frameworks: AWS EC2, WordPress

- Initialized an EC2 instance using Free Tier Services on the AWS Platform combined with a WordPress AMI.
- Created an E-Commerce website for a Business "Blackridge Camping Company" on WordPress while leveraging UX Design principles, SEO, and digital/content marketing trends.