CONNOR LILBOURNE

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EDUCATION, LANGUAGES AND SKILLS

Wilfrid Laurier University – Waterloo, ON *September 2021 – April 2025*
Honours Bachelor of Science, Computer Science (10.03 GPA) with Mathematics and Environmental Studies Minors

Programming Languages: Python, C, Java, C#, JavaScript, SQL, R, VBA, DAX, HTML, CSS
Frameworks & Libraries: ReactJS, NodeJS, Express, MongoDB, TensorFlow, Scikit-Learn, Keras, NetworkX
Tools: Power BI, Git/GitHub, Jupyter Notebook, MySQL Workbench, Microsoft Office, Excel, API/REST
Cloud & DevOps: AWS (Cloud Practitioner), Azure, Railway, Vercel
Other: Agile, Databases, A/B Testing, Frontend Development, Backend Development, Full-Stack Development, CAD, Artificial Intelligence, LLMs.

WORK EXPERIENCE

Data Analyst – LifeLearn Animal Health, ProSites, *Guelph, Ontario* *June 2024 – December 2024*
- Applied Machine Learning and AI-based customer profiling to improve insights on global market usage.
- Built and deployed a convolutional neural network to identify bot traffic in Google Analytics and Matomo.
- Developed Power BI dashboards using Azure, SQL, and Excel data sources to deliver actionable insights on customer ROI and support product improvements using hand-built distribution models.

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.

Inclusion Specialist and Senior Counsellor - YMCA Wanakita, *Haliburton, Ontario* *June 2021 – August 2022*
- Provided care and companionship for special needs campers by 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.

PROJECTS

HireConnor.org – Personal Portfolio & Fantasy Football Application
Languages and Frameworks: JavaScript, MongoDB, React, NodeJS, ExpressJS, Railway, Vercel, HTML, CSS, API/REST
- Created a full stack website to hold my resume hosted on Vercel (Frontend) and Railway (Backend).
- Engineered a fantasy football app featuring user authentication (login/register) and AI Mock Drafts.
- Implemented 11 AI bots which draft realistically based on team needs and current estimated draft position in human leagues.

Data Mining Projects (Data Analysis/Data Cleaning/Big Data/ETL)
Languages and Frameworks: Python, Jupyter Notebook, Scikit-Learn, TensorFlow, NetworkX, Keras
- 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 LLM 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/ETL)
Languages and Frameworks: Python, Jupyter Notebook, Scikit-Learn, TensorFlow, Keras, C Programming
- 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.
- Implemented A* search for solving 8/15-puzzles with heuristic analysis.
- Developed AC-3 (Arc Consistency) with backtracking for sudoku puzzles.
- 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.