

LEEN ALZEBDEH

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HIGHLIGHT OF SKILLS

Graduate student in the University of Alberta, specializing in machine learning (ML). Some of my qualifications include:

- Developing a predictive Transformer model for blood glucose in type 2 diabetes patients using TensorFlow and PyTorch; co-authoring a forthcoming research paper.
- Contributed to the development of a business website as a JavaScript developer.
- Customized artificial intelligence (AI) models, such as YOLOv5 and U-Net, for computer vision applications.

EDUCATION

Master of Science, Computing Science

September 2024 – June 2026

University of Alberta, Edmonton, AB

Bachelor of Science, Specialization in Computing Science

2020 – June 2024

University of Alberta, Edmonton, AB

- First Class Standing (GPA \geq 3.5)
- Related coursework: Artificial Intelligence Capstone, Visual Recognition (computer vision), Introduction to Natural Language Processing (NLP), Machine Learning, Software Process and Product Management.

SKILLS

- Languages: Python, C, Java, Julia, JavaScript/ TypeScript, SQL, HTML/CSS, XML.
- Technologies: NumPy, PyTorch, Keras, TensorFlow, Pandas, scikit-learn, Matplotlib, React (ES6), Django, Android, Git, JUnit, Docker, NLTK, Linux, Shell.
- Databases: MongoDB, PostgreSQL.
- Soft skills: research, time management, communication, teamwork, flexibility.

WORK EXPERIENCE

Student Researcher

January 2024 – Present

University of Alberta: Department of Medicine, Edmonton, AB

- Developing a PyTorch Temporal Fusion Transformer model to predict blood glucose levels for hospitalized type 2 diabetes patients, utilizing time series data from electronic medical record.
- Performing feature engineering to enhance model performance, including the extraction and creation of new features from raw time series data.
- Staying updated with the latest research and developments in time series forecasting and machine learning in healthcare, applying new techniques to improve the model's performance.

Frontend Developer

September 2022 – December 2022

Zero RampUp, Edmonton, AB

- Collaborated in a 7-member team to develop and deploy a business website from scratch, using JavaScript.
- Utilized Agile methodology with weekly stand-ups and sprint planning.
- Developed custom React Hooks to facilitate seamless retrieval of asynchronous data from a REST API and dynamically update website components.
- Engaged in pair programming with frontend developers and conducted code reviews to ensure code quality.

Tutor

2020 – 2024

Paper Edu, Edmonton, AB

- Tutored K-12 students in computer science and mathematics, earned an average of 94% positive reviews.
- Provided code review for computer science students in Java, Python, C and JavaScript.

Intern

July 2018 – August 2018

University of Alberta: Department of Computing Science, Edmonton, AB

- Collaborated on a 6-week research project to optimize the performance of a program that simulates the board game Hex, mainly through refactoring and rewriting existing code.
- Presented the findings to an audience of over 30 peers, faculty, and industry professionals. This presentation demonstrated improved program performance metrics and facilitated an interactive Q&A session.

PROJECTS

Autonomous Robot Driving Using Robot Operating System (ROS)

February 2023 – April 2023

ROS Developer

[Project Link](#)

- Developed and launched ROS packages in a Linux environment to enable a robot (Duckiebot) to autonomously navigate miniature roads using image processing to drive parallel to yellow road lines.
- Utilized Docker to containerize the ROS packages, ensuring a consistent runtime environment for deployment.
- Trained a TensorFlow-based deep learning model (detectron2) on a custom dataset of images to detect rubber ducks and other Duckiebots and avoid collision.
- Tools: Python, ROS, OpenCV, TensorFlow.

Distributed Social Networking Web App

January 2023 – April 2023

Django Backend Developer

[Project Link](#)

- Contributed to a team of 5 to develop a blogging/social network platform web app that is linked with other teams' unique APIs and can aggregate activity from their web servers.
- Built the app's backend, integrated APIs, and wrote unit tests in Django.
- Tools: Python, Django, React.

NLP-Based Relation Extraction & Classification

November 2023 – January 2023

NLP Developer

[Project Link](#)

- Optimized a Naive Bayes classifier to extract and categorize semantic relationships from text, utilized data preprocessing and evaluation techniques including 3-fold cross-validation on the FewRel dataset.
- Tools: Python, NLTK, pandas

Linear Regression, Neural Networks and SVM to Predict Edmonton's Weather

March 2023 – April 2023

Machine Learning Developer

[Project Link](#)

- Implemented linear regression, neural networks, support vector machine (SVM) algorithms to predict temperature and precipitation using Edmonton's daily weather dataset.
- Tools: Python, Matplotlib, NumPy, TensorFlow, scikit-learn, sodapy.

PRESENTATIONS

Invited Presentations

- Alzebedeh L, Lin C. Glucose Prediction and Automated Insulin Dosing in Hospitals. Endocrinology division, University of Alberta; Edmonton AB. April 2024.

VOLUNTEER EXPERIENCE

- Barista at the Carrot Arts Coffeehouse: prepared beverages and fostered an inviting atmosphere.
- Art Booth Coordinator at the Works Art Festival: Presented artworks, and interactively engaged with visitors.