Temi Otun

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EDUCATION

University of Alberta **Expected April 2027**
Bachelor of Science, Major in Computing Science –Artificial Intelligence Specialization *Edmonton, AB*

- **Relevant Coursework:** Algorithms I, Machine Learning I, Linear Algebra II, Introduction to the Foundations of Computation II, Practical Programming Methodology, Formal Systems and Logic in Computing Science, Introduction to Applied Statistics II
- **Awards**: Jason Lang Scholarship

EXPERIENCE

Research Assistant **January 2025 – Present**
The Metabolomics Innovation Centre *Edmonton AB*

- Enhanced long-range temperature forecasting system, resulting in up to 47% lower MAE with an average 24.3% improvement across a six-year test set compared to previous approaches
- Developed multivariate time series models for precipitation forecasting, incorporating 100+ climate features and outperforming baseline models in 73% of test years
- Assembled forecasting pipelines with advanced feature engineering and benchmarked 20+ ML models, attaining a 42% accuracy improvement over baseline methods
- Automated SQL pipelines to ingest weather and climate data from APIs and web scrapers, generating new feature combinations to support testing and improvement of forecasting models
- Collaborated with a cross-disciplinary research team, presenting forecasting results in bi-weekly meetings and integrating feedback to refine feature engineering and improve model performance

Undergraduate Research Assistant **September 2024 – Present**
University of Alberta *Edmonton AB*

- Contributed to 3 machine learning systems in computational psychiatry and predictive healthcare, including dementia detection and ECG signal modeling on large scale clinical datasets, improving diagnostic accuracy
- Synthesized insights from 40+ research seminars, on survival analysis and disease prediction, applying advanced statistical and ML methods to strengthen ongoing projects
- Documenting and analyzing 15+ ML experiments, applying feature engineering, hyperparameter tuning, and evaluation pipelines to improve performance across classification and regression tasks
- Engaged in weekly group meetings, sharing progress updates, analyzing peer contributions, and applying feedback to improve research experiments and strengthen machine learning models

Data Management Intern **January 2024 – May 2024**
InfoStrux *Vancouver, BC*

- Optimized 25+ SQL queries in Snowflake, reducing execution time by up to 60% and boosting performance of business intelligence dashboards
- Partnered with a senior data engineer to design Snowflake staging and curated layers for 3 datasets; wrote and tuned 30+ queries, improving data reusability and cutting time-to-insight by 40%
- Constructed and maintained 10 database schemas in Snowflake to support diverse data types, improving pipeline efficiency and data flow

PROJECTS & RESEARCH

Project **August 2025**
Emotion Detection Neural Network Github *Edmonton, AB*

- Trained a deep convolutional neural network (CNN) in PyTorch on the FER 2013 dataset (32k+ labeled images), utilizing OpenCV for multi-class facial emotion recognition
- Achieved 70% test accuracy across 7 emotion classes, outperforming baseline models by 15%, and integrated webcam inference to enable real-time emotion detection
- Incorporated preprocessing techniques (grayscale normalization, resizing, augmentation) with RELU activations and batch normalization, to improve model accuracy

Project **June 2025**
Personal Website Github *Edmonton, AB*

- Launched a personal portfolio with React and Tailwind CSS, hosted on Vercel with backend email integration on Render, providing a platform showcasing AI/ML and software projects
- Improved user experience with interactive UI features, leveraging Framer Motion, Vanta.js, and React-Scroll for animations and dynamic backgrounds

Project **January 2025**
Lung Cancer Detection Github *Edmonton, AB*

- Accomplished a recall score of 99%, accuracy score of 94%, precision score of 95%, and f1 score of 97% on the best classification model
- Built and compared multiple ML models (SVM, k-NN, Random Forest) to determine the most effective classification approach
- Applied preprocessing techniques including SMOTE, and k-fold cross-validation to address class imbalance and improve model performance

Research **September 2024 – November 2024**
Process-2025 *Edmonton, AB*

- Refined ML models on audio datasets for early detection of dementia and mild cognitive impairment, tackling both classification and regression tasks
- Developed a Random Forest model for the ICASSP 2025 SPGC challenge, achieving accurate patient classification into 3 diagnostic categories with evaluation scores
- Explored self-supervised and pre-trained models from prior research, improving predictive metrics (F1, recall, precision, and RMSE) compared to baseline models

Project **July 2024**
Basketball Chatbot Github *Calgary, AB*

- Created a Chatbot in Python connected to a SQL database containing 4800+ NBA players and 30+ teams, enabling queries on player stats, team rosters, and historical data
- Designed a custom interface in SwiftUI alongside Firebase authentication with encrypted credentials, ensuring secure login and data protection for users

SKILLS

Programming: C, Python, SQL

Libraries & Frameworks: PyTorch, TensorFlow, scikit-learn, NumPy, Pandas, OpenCV, Matplotlib, Darts, Nixtla, React, Tailwind CSS
Tools & Platforms: Git, Bitbucket, Docker, Snowflake
Spoken Languages: English, Yoruba
Interests: Basketball, Football, Hiking, Weightlifting