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, Calculus 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, achieving 42% higher accuracy compared to the baseline across an 11-year dataset
- Engineered multivariate time series models for advanced precipitation forecasting outperforming the baseline in 73% of test years
- Developed end-to-end forecasting pipelines, implementing advanced feature engineering and benchmarking 20+ ML models

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

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
- Collaborated with 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%
- Designed and maintained 10 database schemas in Snowflake to support diverse data types, improving pipeline efficiency and data flow

PROJECTS & RESEARCH

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

- Achieved 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, LightGBM) to determine the most effective approach for clinical datasets
- Applied feature preparation techniques including SMOTE, normalization and cross-validation to handle class imbalance and improve model performance

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

- Developed ML models on audio datasets for early detection of dementia and mild cognitive impairment, tackling both classification and regression tasks
- Built 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 **August 2024**
Emotion Detection Neural Network *Calgary, AB*

- Trained a deep learning model on the FER 2013 Kaggle dataset (32,000+ labeled images) for multi-class emotion recognition
- Implemented a CNN from scratch in PyTorch with OpenCV, incorporating activation functions, batch normalization, and max pooling layers
- Benchmarked pre-trained architectures (ResNet, VGG) achieving 70% accuracy and comparing results against the custom CNN

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

- Engineered a Chatbot in Python connected to a SQL database containing 4800+ NBA players and 30+ teams for basketball queries
- Designed a custom interface in SwiftUI enabling users to interact through queries on players and team statistics
- Integrated Firebase authentication with encrypted credentials, ensuring secure login and data protection for users

SKILLS

Programming: C, Python, SQL
Libraries & Tools: PyTorch, TensorFlow, Scikit-learn, OpenCV, Pandas, NumPy, Matplotlib, Darts, Nixtla, Git
Languages: English, Yoruba
Interests: Basketball, Football, Hiking, Weightlifting