Temi Otun

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EDUCATION

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

- ***Relevant Coursework:*** *Algorithms I, Machine Learning I, Linear Algebra II, Calculus II*

WORK EXPERIENCE

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

- Enhanced long range temperature forecasting system, achieving 42% higher accuracy than baseline across an 11-year dataset
- Engineered multivariate time series models for precipitation forecasting outperforming baseline in 73% of test years
- Developed and optimized end to end forecasting pipelines in Python, implementing advanced feature engineering and benchmarking 20+ ML models (LSTM, iTransformer, XGBoost)

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

- Contributing 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

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
Scholarships and Awards: Jason Lang Scholarship
Certifications: SnowPro Core, Bloomberg Market Concepts
Languages: English, Yoruba
Interests: Basketball, Football, Hiking, Weightlifting