

Education

Tarleton State University (Texas A&M System), Stephenville Texas

January 2022 - May 2025

 $Computer\ Science\ \ \mathcal{E}\ Mathematics,\ Con.\ -\ Artificial\ Intelligence\ \ \mathcal{E}\ Data\ Science$

Work & Research Experience

Apple Inc. May 2023 – Present

AI/ML Engineering Intern

Cupertino, California

• Developed a Python-C hybrid library with custom AI ensemble models algorithms for high multicollinearity identification used to develop algorithms for Apple devices crash predictions and proximity-based predictions further used for ecosystem optimizations and analysis.

• Secured a position in the top 10 finalists for the Apple iContest (intern ideathon).

NASA - National Aeronautics and Space Administration

Aug 2022 - May 2023

Research Payload Engineer

Huntsville, Alabama

• Built a payload system for a sub-scale rocket, integrating real-time flight analytics via a custom UDP server, culminating in multifaceted image processing operations at 4600fts through a bespoke SDR Radio Receiver.

NAVSEA - Naval Sea Systems Command

July 2022 - Mar 2023

Research AI/ML Systems Engineer

King George, Virginia

• Built an AI/ML algorithm that uses Markov Chains, Naïve Bayesian and greedy search for automated scheduling, strategic weapon pairings, and predictive models systems in weapons systems coordination.

TIAER - Texas Institute for Applied Environmental Science

Jan 2023 – May 2023

Computational Modelling Student Researcher

Stephenville, Texas

• Refined and converted legacy VB.net statistical model systems into a C++ codebase for Unix systems enhancing AI-driven environmental research while improving the Ruby on Rails simulation framework for sediment crop losses - Website

Tarleton State - Machine Intelligence Security and Research Lab (MISR)

February 2022 – Present

Lead Student Researcher

Stephenville, Texas

• Developed the Mini Batch RINDEX algorithm using RIndex cluster metric for efficient Multicollinearity in machine learning models and custom distributed computing data partitioning systems.

Tarleton State - Mathematics Department

May 2022 - August 2022

Student Researcher

Stephenville, Texas

• Utilized stochastic processes on networks and differential equations to develop advanced disease propagation models, enhancing disease control insights through dynamic systems and algorithmic simulations.

Projects

NeuronIO | Git

• Implemented a custom Transformer neural network architecture with custom layers, activation functions, backpropagation, optimizers, loss functions, and extended C shared libraries for vector store embedding operations

SLIC | Git

• Developed and Released a python package that optimizes client-server communication via TCP connections, reducing latency through efficient protocols and data serialization algorithms. An alternative to REST API qs

QuantX | Git

• Developed C++ modules for real-time stock data collection, market analysis, AI-driven position sizing, and data insights, dynamic hedging strategies, monte carlo simulations, and slippage modeling for risk reduction and strategy enhancement.

WHOTAI | Git

• Developed an ensemble machine learning model for the Naija Whot card game (similar to UNO), incorporating parallelization for training corpus generation and a distributed system game simulation with the Model. The ensemble integrates a Random Forest algorithm developed from scratch with corpus vector embeddings.

Afterhours

• Developed a full-stack web and mobile app to allow college students find students with same major, integrating middleware-driven HTTP APIs and WebSocket functionality with Node.js. Utilized MongoDB for data management. Implemented a cross-platform UI using React Native (mobile) and ReactJS (web).

Technical Skills

Languages/Database: Python, C++, C, Assembly (x86, AVR), C-sharp, VB, Ruby, Scala, SQL, MongoDB, PostGres Frameworks& Tools: Pytorch, Tensorflow, Sklearn, Tableau, Docker, Kubernetes, Caffe, Coreflow, GIT, Linux/Unix, AWS EC2/S3

Frontend: Swift, ReactJs, Angular, React Native, Flutter, TailwindCSS

Backend: Nodejs, NestJS, Java, Flask, FastAPI Other: PCB Design, Arduino, RasperryPI,