IFECHUKWUDENI TEDDY OWEH
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Research & Work Experience:

Computational Modeling Research Student (Texas Institute Applied For Environment Research)
Tarleton State University, Stephenville Texas (Jan 23 - Present)

- Development and implementation of computational models to support environmental research initiatives at the institute.
- Worked with agricultural researchers to design models that can simulate environmental processes, as well as testing and refining these models to ensure their accuracy and reliability.
- Implementing High-Performance Computing Optimization for Enhanced Systemic Execution and Models, converting legacy vbnet model to c++ to compile on AWS EC2 Servers.

Skills Applied: Python, C++, AWS, VB.net, Ruby on Rails

Lead Student Researcher (Electrical & Computer Science Department)
Tarleton State University, Stephenville Texas (Feb 22 - Present)

MINI BATCH RINDEX Hybrid Feature Selection Algorithm For Machine Learning Models.

- Developed a novel hybrid feature selection algorithm which combines the wrapper, filter, and Rindex cluster metrics, resulting in superior accuracy, stability, and feature selection time across diverse datasets, which is adaptable to a range of ML algorithms.
- Significantly, it also streamlines computational efficiency by reducing the number of required features for optimal accuracy.

Skill Appliead: Python, Google Cloud Platform, ML Pipeline Modelling.

Student Researcher (Mathematics Department)
Tarleton State University, Stephenville Texas (May 22 - Sept 22)

Model Of Disease Spread Using Stochastic Processes on Networks.

- Leveraged stochastic processes on networks and differential equations to develop models for the spread of infectious diseases.
- Worked collaboratively, has devised solutions for determining disease susceptibility rates and recovery probabilities, employing sophisticated mathematical and epidemiological models.
- Translated the mathematical theorems and methods, to pseudocode then a working algorithm using dynamic systems modeling and stochastic processes on network graphs

to visualize patterns, simulate spreads and further enhance our modeling approach, providing valuable insights into disease control.
Stochastic Processes Source Code

Payload Engineer, Microcomputer and Communication Systems Team.
Tarleton State University NASA USLI'23 RocketTeam (Sept 22 – Present)

- Developed a payload system used in a Rocket launched at est. 460,000fts to carry out various image processing techniques based of commands from an SDR Radio Receiver custom functions was developed to parse commands. With Raspberry Pi as the microcontroller
- Implemented hardware engineering principles to connect and control stepper motors, PI Cam, Altimeter, and various hardware components using the Raspberry Pi microcontroller.
- Used object-oriented programming concepts in the development of the Payload driver code. Demonstrated knowledge of image processing and manipulation using OpenCV.

Student Tutor/Grader, Intro to Computer Science.
Tarleton State University, Stephenville Texas (Sept 22 - Dec 22)
Assisted the professor in explaining intermediate Python programming concepts to students.

Projects:

More of my projects are opensource on my GitHub Profile - https://github.com/teddyoweh

Rocket Team Social Media, PR Website and Website Lead (Aug 22 - Present)
- Managed and oversaw the entire social media presence of Tarleton Rocket Team.
- Developed the Tarleton Rocket Team Website

Machine Learning and Data Analytics.
- **Cheat Model:** Developed a text classification model using NLP and classifiers and integrated it into an API using Python Flask.
  Source Code: https://github.com/teddyoweh/cheat-model
  API Source Code: https://github.com/teddyoweh/cheat-model-api

- **Omark**: Developed and published a Python library with a facial search algorithm that uses a binary search algorithm on a facial recognition model to efficiently identify faces that are absent in a dataset.
  Source Code: https://github.com/teddyoweh/Omark

- **Trek:** Developed and published a Python Library that encompasses of graph theory algorithms, Dijkstra algorithm and simulations, to optimaize paths and travel times between nodes on a geospatial map. Practical cases used was my university campus.
  Source Code: https://github.com/teddyoweh/Trek

Web, Software and Mobile Development.

- **VoiceOut**: Developed a social network mobile application featuring features and concepts from Twitter and YIKYAK.
  Technical Skills: React Native, React Redux, Mongodb, Nodejs, JWT, TwilioAPI.

- **Beardb:** Developed and published a Python Database system library implementing AES encrypted versions JSON of data. Easy to access, manage and deploy remotely. Implemented a client class to effectively allow users access the data when deployed using the BeardbAPI microservice
  Source Code: https://github.com/teddyoweh/beardb
  Web Documentation: https://www.beardb.net/

- **BeardbAPI**: Developed and Published a Python API microservice library to deploy AES Encrypted JSON Databases Remotely using Beardb database system.
  Source Code: https://github.com/teddyoweh/beardb-api

Skills:
AWS | GIT | Python | Java | Scala | C | C++ | ReactJS | VueJS | Angular | PHP | React Native | Nodejs| MongoDB | PostgreSQL |Cassandra| MYSQL | Matplotlib | Mathematica | Machine Learning Modelling | NLP Techniques | Seaborn | Google Cloud Platform | Linode | Azure

Education

- Tarleton State University, Stephenville TX. (January 2022 - May 2025)
  - B.S. in Computer Science, Artificial Intelligence and Data Science, Honors.
  - B.S Mathematics, Data Analysis, Honors
  - Tarleton Computer Society (President)
  - Student Government Association (College of Engineering Congressman).
  - Student Research Association,
  - IEEE Tarleton Branch (Social Media Lead)
  - Tarleton Rocket Team (Payload Engineer, Social Media and Website Lead)
  - Maths Club
  - Tarleton Table Tennis Club (President)