Chobotis Tech Projects

###### First Row: Professional Work

# Financial Report Dashboards

Chiang and Lu Accountancy   
Creating a series of dashboards to analyze annual financial reports

#### Business Intelligence in action

How to tell a story using numbers and statistics

* **From scattered numbers to analytical data**   
  Created 12 statistical reports and a presentation based on predictive models using Hadoop and MySQL databases to improve financial management for the upcoming year.
* **From numbers to visuals**   
  Purveyed two years' worth of monthly financial reports and developed a predictive model focusing on deficits, earnings, and losses. The data was then visualized using Tableau’s dashboards
* **From presentations to present-day changes**   
  Presented the findings, identifying causes of certain losses and deficits, and proposed two alternative decision-making routes using predictive models, which improved the accountancy’s earnings by 15%

# Social Media Analysis

Awesome Media inc.  
Analyzed three different social media platforms for a campaign about social media addiction in children

#### Meaningful social interactions

What social media trends can tell us about how much time kids spend

* **What the trends tell us**  
  Developed analytical models to track social media trends for a campaign addressing social media addiction among children aged 9-13.
* **How to analyze the trends**   
  Analyzed data from three mobile social media platforms to monitor trend popularity over a month utilizing Django to store data.
* **What we did with the data**Created data visualizations using Tableau that were integral to an educational packet distributed to over 20 schools, impacting approximately 700 classrooms.

Network Connection Analysis using ML

NorthStar Development and Administration   
Developed a machine learning-based anomaly detection system to analyze network traffic to examine hundreds of open ports and identify those connected to potential cyber threats.

#### Protecting what connects us

Observing and analyzing networks in a smart and efficient manner

* Engineered a comprehensive system, integrating a full-stack framework, database, and machine learning algorithms, to efficiently analyze real-time network traffic.
* Leveraged NMAP and Wireshark for in-depth network analysis, identifying open ports and their associated URLs. Applied advanced machine learning models, including Decision Trees, K-Means clustering, and Convolutional Neural Networks (CNNs), to detect and filter malicious URLs.
* Achieved 99% accuracy in cyber threat detection using Decision Tree models, significantly improving threat detection, anomaly prevention, and network latency reduction.

###### 2nd Row: Academic Work

# Image Inpainting Techniques

Finished Spring 2022 for CPSC 431: Machine Learning at Cal State Fullerton

Using machine learning techniques, damaged images can be made whole again. Published in IEEE 2022.

# Brain Tumor Identification in MRI Scans using Deep Learning Techniques

Finished 6/10/2023 for Master's Project at CSU Fullerton

To accurately detect brain tumors in MRI scans, I created a deep learning machine trained to identify and categorize over 2000 MRI scans from the Cancer Imaging Archives.

Personal Library APP

Finished 5/14/2022 for CPSC 541: Neural Networks at CSU Fullerton

#### A lifetime in a database

Creating a database of every single piece of media a user has read, watched, experience

* **Libraries without end**Developed a Personal Library app using the OpenLibrary API to build a personal database of books. Implemented data retrieval and integration techniques to ensure accurate and up-to-date information from external sources.
* **Tables instead of shelves**Designed and optimized the app using MySQL for database management and Flask for the backend framework. Conducted performance testing to improve speed and efficiency, increasing productivity for personal book database management by 20% through query optimization and efficient data storage practices.
* **To view this continuously updated projected**General design at github