**Syracuse Data Science Project List**

**Portfolio**

* Portfolio: Portfolio.docx/pdf
* Resume: Emilio\_Ramos\_Monzalvo\_Resume.docx/pdf
* **Supporting Projects**
  + **IST659 – Data Admin & Management – 1st Quarter**
    - Syllabus: IST\_659\_Syllabus.pdf
    - Project: NFL Weekly game Prediction Database
      * Description: Created a schema and database used to keep track of NLF games’ score, prediction, and accuracy.
      * File(s):
        + Project Rubric: IST659+Project+Description.pdf
        + Report:

Deliverable1\_Emilio\_Ramos\_Monzalvo.docx

Deliverable2\_Emilio\_Ramos\_Monzalvo.docx

* + - * D.S. Tech:
        + Database: SQL, DB Schema, DB Creation.
  + **MCB638 – Data Analysis and Decision Making – 1st Quarter**
    - Syllabus: MBC\_638\_Syllabus.pdf
    - Project: Improve the process of predicting NLF game’s score.
      * Description: Using python and other data science techniques, historical data of the Ramos’ family NLF game predicting from 2008 onwards was analyzed to find patterns on teams that win.
      * File(s):
        + Report: StoryBoard.pptx
      * D.S. Tech: Hypothesis Testing, Data Frames, Python, Data Visualization, Data Analysis, and Confidence Interval.
  + **IST 687 – Applied Data Science – 2nd Quarter**
    - Syllabus: IST\_687\_Syllabus.pdf
    - Project: Use data transformation and analysis skills to understand and visualize different patterns on unclean data.
      * Description: Work on a Dataset of the Foreign Assistance from the U.S. to Columbia, transform the data as needed, and provide a written analysis with visualizations.
      * File(s):
        + Report: Final\_Report.docx
        + Presentation: Project\_Update.pptx
        + Other: Tables.xlsx
      * D.S. Tech: R programming, data wrangling, data visualization.
  + **SCM651 – Business Analytics – 2nd Quarter**
    - Syllabus: SCM\_651\_Syllabus.pdf
    - Project: Determine if an individual will get a loan or not using linear regressions.
      * Description: Using the Universal Bank data, determine the factors which influence whether a customer takes out a loan.
      * File(s):
        + Project Desc: SCM651\_HW4.pdf
        + Report: SCM 651 HW#4 Team #4.docx
      * D.S. Tech: Sensitivity Analysis, Logit Regression
  + **IST707 – Data Analytics – 3rd Quarter**
    - Syllabus: IST\_707\_Syllabus.pdf
    - Project: Using ML tools to process and model dataset.
      * Description: Clustering personalities based on interests/hobbies survey.
      * File(s):
        + Report: Project\_Emilio\_Ramos\_Monzalvo.docx
        + Presentation: ProjectPresentation.pptx
      * D.S. Tech: Decision Tree, Random Forest, Data Prep, Visualization, ,
  + **IST718 – Big Data Analytics – 4th Quarter**
    - Syllabus: IST\_718\_Syllabus.pdf
    - Project: For the final project, students will identify a data-focused problem, bring together different data sources, conduct analysis, draw conclusions, and produce a report explaining the results
      * Description: Using a classified flower photo dataset, a deep neural network model was trained to classify them accordingly.
      * File(s):
        + Project Desc: final\_project\_report\_instructions.pdf
        + Results: FlowerRec.pdf
        + Statement: IST 718
      * D.S. Tech: Deep Neural Networks, Computer Vision, Code Pipeline, Model Comparison, Image Data
  + **IST664 - Natural Language Processing – 5th Quarter**
    - Syllabus: IST\_664\_Syllabus.pdf
    - Project: The final project will be a classification task, where you will develop features for the task and demonstrate that you can carry out experiments that show which sets of features are the best for that data.
      * Description: Using tweets about COVID, the public sentiment is to be determined
      * File(s):
        + Project Rubric: Final Project Rubric.pdf
        + Report: CovidSentiment.docx
      * D.S. Tech: API, Social Media Data, Data Prep, NLP, Sentiment Analysis, Text Processing.
  + **IST652 – Scripting for Data Analysis – 6th Quarter**
    - Syllabus: IST\_652\_Syllabus.pdf
    - Project: Time series comparison of the stock of Semiconductor Manufacturers
      * Description: Comparing the stock of storage device manufacturer companies over time. This was done to understand if there are patterns that each company follows or influence one another.
      * File(s):
        + Project Rubric: Final Project.pdf
        + Report: FinalProjectReport.docx
        + Presentation: FinalProjectPresentation.pptx
      * D.S. Tech:
        + Data Mining: Used API to pull stock data.
        + Data Wrangling: Transformations used to clean up data.
        + Time Series Analysis: Decomposition, ARIMA, Autocorrelation, Regression.
  + **IST772 – Quantity Reasoning in D.S. – 7th Quarter**
    - Syllabus: IST\_772\_Syllabus.pdf
    - Project: you will receive a custom dataset that is unique to you. You will have a set of analytical challenges and will be responsible for writing up the results.
      * Description: Compare US Vaccine rates among California School Districts.
      * File(s):
        + Project Rubric:

Week11finalExamRubric.docx

Week11finalExamSummer2020.docx

* + - * + Report:

Emilio\_Ramos\_Monzalvo\_FinalExam.docx

* + - * D.S. Tech: Bayesian Models, Hypothesis / Frequentist Tests.
  + **IST600 – Managing a D.S. Project – 8th Quarter**
    - Syllabus: N/A
    - Project1: Airline Churn Prevention Project
      * Description: Used Data Science Project Management Techniques to create a project approach to help the D.S. team of an Airline achieve success in understanding customer churn.
      * File(s):
        + Project Rubric: ChurnCase-2021.pdf
        + Report: CASE ANALYSIS FINAL.pdf
      * D.S. Tech:
        + D.S. Project Management Tools -> Scrum, Kanban, CRISP-DM, Agile.
    - Project2: Integration Paper
      * Description: Prove understanding of Data Science Project Management by creating a report that can be used by other D.S. teams to understand how to better approach a Data Science project.
      * File(s):
        + Report: IntegrationPaper.docx
      * D.S Tech: Project Management Tools -> Data Driven Scrum
  + **IST719 – Information Visualization – 8th Quarter**
    - Syllabus: IST\_719\_Syllabus.pdf
    - Project: Create a poster using a dataset of your choice that helps answer questions about the data.
      * Description: The generation and use of petroleum are linked to climate change, fracking, and the destruction of natural environments. Consequently, the United States has taken a stand to limit the production of petroleum in the early 2000’s.
      * File(s):
        + Report: WorkInProgressReport.docx
        + Poster: ProjectPoster.pdf
      * D.S. Tech: Data wrangling, data prep, visualization, poster creating, Adobe Acrobat.
  + **IST736 – Text Mining – 9th Quarter**
    - Syllabus: IST\_736\_Syllabus.pdf
    - Project: Find a large text-based dataset to answer a question.
      * Description: Using the scripts from all Marvel Cinematic Universe (MCU) movies, create a search engine.
      * File(s):
        + Report: Final Project Report.docx
        + Presentation: IST-736-Final Project.pptx
      * D.S. Tech: Google Universal Sentence Encoder, Text Processing, Unsupervised Clustering, Regex, Search Engine.