Matthew Nicholas Vassov

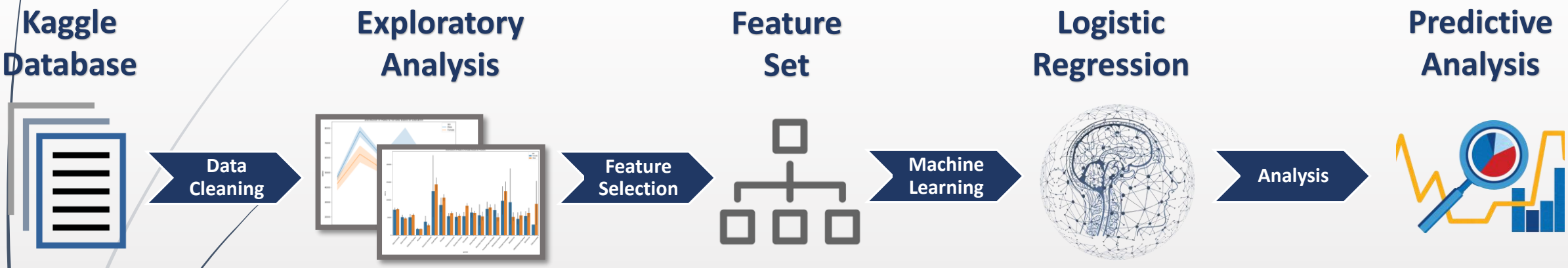
Academic & Career Project Portfolio

A career-focused and dedicated individual, Matthew is a proven team player who possesses the necessary skills to take on new and challenging prospects. From supply chain coordination to business process consulting, he has succeeded in demonstrating leadership and strategical thinking in the workplace.

Matthew received his bachelor's in Mechanical Engineering while specializing in Mechatronics. He is currently working towards his Master's in Engineering, with an emphasis in Data Analytics and is looking for new opportunities. His desire to change his career trajectory is fueled by his motivation to learn new and challenging concepts, bring fresh ideas to the company and ultimately grow as a professional.

Kaggle Data Science Salary Classification (2019)

Implemented a machine learning model using scikit-learn in order to best predict a person's salary within the field of Data Science. Different techniques such as cross-validation and hyperparameter tuning were used (GitHub Link – Vassov_999561530_assignment1).



Data Structuring

- Received *Kaggle Database* containing salary information of varying data analysts.
- Cleaned data by eliminating blank values, reformatting structure, & allocating evenly distributed salary buckets (Pandas, NumPy).

Feature Analysis

- Performed exploratory analysis on cleaned data by plotting graphs and analyzing trends (Seaborn, Matplotlib).
- Used one hot encoding to numerically encode labelled (categorized) feature set.

Feature Engineering

- Performed feature selection through PCA and LASSO regression. This greatly reduced the number of features to the variables that would have the greatest potential impact.

Model Predictions

- Implemented Logistic Regression ML algorithm on train and test data through 10-fold cross validation.
- Tuned hyperparameters to determine best model attributes and highest test accuracy.

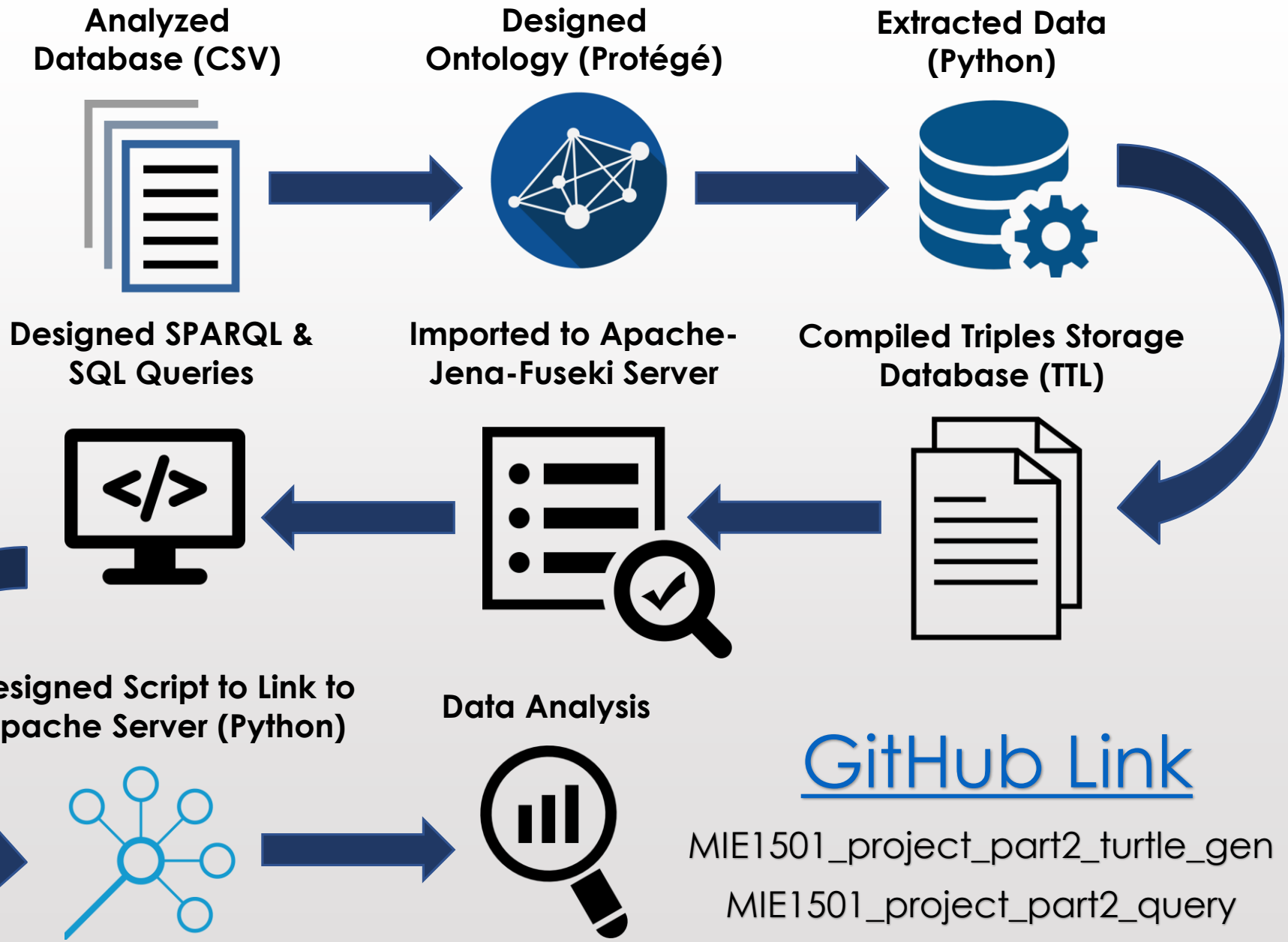
Toronto Crime Ontology Design (2019)

Project Description

- Designed *Toronto Neighbourhood Crime Ontology* utilizing RDF and Knowledge Modelling techniques.
- Used the City of Toronto's open source crime and neighbourhood databases to instantiate data within the ontology.
- Extracted data via Python, converted data to a Triples knowledgebase and designed SQL and SPARQL queries to pull information.

Results

- Resulted in a very effective and efficient way of allowing users to easily search for data instantiated within the ontology.
- Result of queries were structured in neatly formatted tables for easy data analysis.



GitHub Link

MIE1501_project_part2_turtle_gen

MIE1501_project_part2_query

Fastfrate Warehouse Management System (2017-2018)

WMS Design & Implementation

- Took project lead and built a warehouse management system (WMS) for Fastfrate Vancouver.
- Designed WMS user-interface for easy employee usage.
- Programmed real-time inventory tracking system which accurately received and shipped product in appropriate quantities.
- Automated daily shipping and receiving reports were sent to respective clients.
- Client feedback was extremely positive, noting timeliness and accuracy of reports.

Mapping & Volumetric Analysis

- Performed volumetric analysis of incoming products to determine minimum floorspace required for storage and total number of pallets.
- Designed designated alpha-numeric storage bins to hold product.
- Bins were organized in descending order based on quantity of SKU's.
- Floor space was mapped out accordingly, taking into consideration safety exits and turning radius of forklifts.