Owen Burt

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EDUCATION

Eastern University, St. David's, PA
Degrees: B.S. in Mathematics, B.S. in Computer Science, B.S. in Data Science
Expected Graduation: May 2025

- **GPA:** 3.61
- **Dean's List:** Five semesters (Fall 2022, Spring 2023, Fall 2023, Spring 2024, Fall 2024)
- **Relevant Coursework:** Probability, Differential Equations, Real Analysis, Linear Algebra, Statistics with R, Data Structures, Machine Learning, Databases with SQL
- **Activities:** Member of Lambda (Computer Science Club)

RELEVANT PROJECTS

Used Car Price Prediction Model
Team Project, Eastern University

- Developed a machine learning model to predict the price of used vehicles based on web-scraped data from online sources.
- Built a custom web scraper using Python and the Selenium library to gather data on vehicle make, model, year, mileage, and other features, saving results in a CSV format.
- Cleaned and prepared a messy dataset, addressing inconsistencies, missing values, and outliers to ensure data quality.
- Implemented and compared multiple machine learning models, including Support Vector Regression (SVR), neural networks, and simple linear regression, to identify the most effective approach.
- Achieved reasonable accuracy in predicting used car prices, highlighting the potential and limitations of the selected model.

Predicting Powerlifting Performance Using Linear Regression
Individual Project, Statistics in R Course, Eastern University

- Designed a predictive model using R to estimate bench press performance based on squat, deadlift, age, sex, weight, and height, inspired by an interest in powerlifting.
- Conducted exploratory data analysis on a Kaggle dataset containing powerlifting records from multiple federations to identify patterns and relationships.
- Implemented linear regression to predict performance metrics for individuals, including predictions for balanced training outcomes (bench vs. squat and deadlift).
- Developed an additional model to estimate "average" strength benchmarks based on demographic features for non-powerlifters.
- Validated the model qualitatively, achieving reasonable predictions aligned with personal and observed lifting experiences.

Truck Parts Database Design and Implementation
Individual Project, Database Course, Eastern University

- Designed and implemented a relational database to manage truck parts inventory, including schemas and relationships between multiple tables.
- Created an Entity-Relationship (ER) diagram to model the database structure and define relationships between entities.
- Used pgAdmin and SQL to build the database, incorporating primary keys, foreign keys, and constraints to ensure data integrity.
- Developed queries and rules to handle moderately complex operations, demonstrating advanced database design concepts.

SKILLS

- **Programming Languages:** Python, R, SQL, Java
- **Tools & Platforms:** Jupyter Notebooks, Google Colab, pgAdmin, Unix Terminal
- **Statistics & Data Analysis:** Linear Regression, Machine Learning, Data Cleaning
- **Soft Skills:** Communication, Teamwork, Problem-Solving

TEACHING EXPERIENCE

Teaching Assistant
Eastern University, St. Davids, PA
January 2023 – December 2023
- Assisted in teaching Data Structures and Calculus 1, guiding students through complex concepts and coursework.
- Graded assignments, ensuring fairness and consistency while providing constructive feedback.

Tutor
Eastern University Tutoring Center, St. Davids, PA
September 2022 – Present (Paid)
- Tutored students in mathematics, computer science, and data science, tailoring explanations to diverse learning styles and academic needs.
- Supported students in mastering topics such as elementary probability and statistics, discrete math, calculus, and object-oriented programming.
- Collaborated with the tutoring center to track student progress and provide feedback to faculty on recurring challenges.

Try-Block Tutor
Eastern University Mathematics Department, St. Davids, PA
January 2023 – April 2023 (Credit-Based)
- Provided one-on-one and group support to students in computer science and data science courses, including debugging code, explaining algorithms, and assisting with project development.
- Facilitated the understanding of fundamental programming concepts in Python and Java for students in the computer science program.
- Earned academic credit while enhancing teaching and mentoring skills.

LEADERSHIP EXPERIENCE

Resident Assistant (RA)
Eastern University, St. Davids, PA
August 2023 – May 2024
- Supervised a residence hall of thirty students, fostering a safe and inclusive living environment.
- Planned and executed community-building events, such as regular monthly hall meetings, the annual Eagle Hall spelling bee, and a building-wide game night, to enhance student engagement and well-being.
- Mediated conflicts and provided peer counseling, maintaining a positive and supportive atmosphere.
- Enforced university policies and ensured compliance with safety protocols.

WORK EXPERIENCE

Public Works Employee
East Coventry Township, East Coventry, PA
May – August 2021, May – August 2022
- Maintained public parks, walking paths, and township roads, ensuring safety and accessibility for community members.
- Performed landscaping and maintenance tasks, including mowing and repairing damaged infrastructure.
- Collaborated with team members to complete projects efficiently and adhere to municipal safety standards.

Warehouse Manager/Cashier
Pughtown Agway, Chester County, PA
March 2019 – January 2021
- Managed inventory and coordinated the stocking of animal feed and garden supplies, maintaining accurate records and efficient storage systems.
- Assisted customers with product selection and loading, ensuring high levels of customer satisfaction.
- Operated the cash register and handled daily financial transactions with accuracy and accountability.