

Tyler Lowe

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA

May 2023

GPA: 4.0/4.0

Bachelor of Science in Information Systems

Minors: Software Engineering and Business Administration

Current Coursework: Foundations of Software Engineering, Introduction to Computer Systems, Internet of Things, Ethical Penetration Testing

Past Coursework: Principles of Software Construction, Application Design & Development, Principles of Imperative Computation, Fundamentals of Programming and Computer Science, Database Design and Development

Honors/Organizations: Dean's List with High Honors (2019-2021)

SKILLS

- **Languages:** Java, Python, Ruby, C#, C, HTML, SCSS, JavaScript
- **Database Systems:** SQL (Postgres and T-SQL), SQL Server, Database Development and Administration, MongoDB
- **Other Tools:** Ruby on Rails, Bootstrap, Git, GitHub, VSCode, IntelliJ, Microsoft Suite

PROJECTS

Java Carcassonne Game

- Crafted software design artifacts in UML to guide development including a domain model, system sequence diagram, behavioral contract, object-level interaction diagrams, and an object model
- Implemented the codebase (~5,000 lines) with Java 11 utilizing the controller, creator, and information expert heuristics
- Practiced good design principles of code abstraction, information encapsulation, high cohesion, and low coupling
- Performed unit and end-to-end testing with JUnit to ensure correct functionality
- Created a GUI for the program using Swing, event-driven programming, and the observer design pattern

Trading Analytics Framework

- Performed a domain analysis on stock trading to extract key data sources, possible visualizations, and data types for the framework
- Implemented the black-box framework codebase in Java 11 with data-source and display plugin interfaces
- Created 3 data-source plugins and 3 display plugins as samples
- Performed unit and end-to-end testing in JUnit
- Built a GUI for the framework using Swing
- Placed as a top 3 framework in the class and provided technical support for 13 teams (33 people) implementing the plugins

GrubHub Database Project

- Researched GrubHub and created 3 users with 10 user stories for potential database interactions
- Sketched a conceptual model in UML to map necessary entities and attributes, relationships between entities, and cardinalities
- Translated conceptual model to logical model, created cross-reference tables when possible and identified primary/foreign keys
- Normalized set of relations to BCNF then created physical model with Vertabelo and SQL
- Implemented additional Postgres triggers and functions for the database
- Realized the user stories via Python3 and Psycopg2 by creating queries that utilized CRUD principles

WORK AND LEADERSHIP EXPERIENCE

Data Engineer and Management Intern — First National Bank Corporation, Pittsburgh, PA

May 2021 – Present

- Designed, built, and tested two software programs using C#, Windows Forms, and SQL Server to automate data migration and entry for SQL Server project deployments; saved co-workers 3-4 hours of tedious labor per deployment
- Wrote an ETL project using Microsoft SSIS to bring SafeGraph vendor data into the FNB data warehouse for future use by analysts
- Building a SQL Server database, application layer, and Spotfire dashboards for an organization within FNB (Women in Business)
- Programming a dynamic SQL stored procedure to automatically construct the SQL necessary for reporting on a given promotion at FNB

Carnegie Mellon University — 15-110 Teaching Assistant, Pittsburgh, PA

Aug 2020 – Feb 2021

- Lead an hour-long recitation with 25+ students weekly
- Hosted 2-3 hours of office hours weekly and answered questions on Q&A platforms
- Helped build out the first five units of the course's online supplemental learning curriculum (Open Learning Initiative)
- Organized review sessions for class and generated practice problems for exams

CVS Health — Operations Supervisor, Berkeley, CA and Pittsburgh, PA

Jun 2020 – Jan 2021

- Supervised and delegated tasks amongst 3-5 employees during a typical shift
- Managed inventory logistics and handled thousands of dollars' worth in damages monthly
- Handled store financials and opening/closing
- Helped ensure store achieved a baseline of 90% customer satisfaction