Brendan Lauterborn

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EDUCATION

Towson University - Towson, MD
M.S. Computer Science
August 2024 - Present
GPA: 4.0

Texas A&M University - College Station, TX
B.S. Applied Mathematics
August 2017 - May 2021
GPA: 3.1

PROFESSIONAL EXPERIENCE

Business Intelligence Developer Intern, *CPower Energy* - Baltimore, MD
June 2025 - Present

- Monitoring data integrity across CRM entities in Microsoft Dynamics 365 to support customer-facing CX Portal accuracy.
- Designed and implemented a Python-based data validation system for Microsoft Dynamics 365 leads, categorizing records into Good, Gray and Bad using custom rules. Integrated the results into Power Query and Power BI to deliver a live dashboard for sales lead quality monitoring.
- Built a Python solution for detecting duplicate account records in Microsoft Dataverse using fuzzy matching techniques to imporve data integrity and support data cleanup.
- Designed a Python solution to detect duplicate SharePoint document locations in Microsoft Dataverse, linking the results to associated accounts and users, prioritizng national customers, and exporting findings to excel for data cleanup.

PROJECTS

Backend Developer - Real Estate Management Database

- Designed and implemented a RESTful API using Spring Boot and MySQL to manage real estate operations, including agents, clients, properties, listings, branches and appointments.
- Implemented complete CRUD functionality with validation logic to enforce data integrity.
- Constructed a MySQL database schema and ERD with proper foreign key constraints to maintain relational integrity.

Computer Networks- UDP Stop-and-Wait Project

- Developed a UDP-based client-server application in Java that simulates reliable datagram communication with acknowledgments and retransmissions (Stop-and-Wait protocol).
- Integrated HTTP webpage fetching and 1024-byte chunked transmission with timeout handling and alternating sequence numbering to ensure reliable data transfer over UDP.

Long Mode Bootloader Development

- Contributed to a team project developing a custom bootloader in NASM assembly to transition an x86 system from Real Mode to Protected Mode and then to 64-bit Long Mode.
- Focused on enabling Long Mode by disabling paging, setting the 5^{th} bit of CR4 to enable PAE , creating the new page table, moving the base address of the page table to CR3 and then enabling Long Mode.

The Effect of Total Expenditures per High School Student on AP Exam Pass Rates

- Analyzed a comprehensive raw data set of high school expenditures and AP exam pass rates, utilizing advanced statistical techniques to identify significant correlations and build graphs.

Car Dealership Manager

- Programmed a Python function, collaboratively with two peers, to collect and analyze car dealership data nationwide, resulting in comprehensive insights on sales by state, monthly trends, and brand percentage.

Academic Papers: View Papers

TECHNOLOGY SKILLS

Languages: Java, Python, SQL, C++
Skills: Spring Boot, MySQL, RESTful APIs, Power BI, Power Query, VS Code, Postman