

## **Edgar Vazquez Gonzalez**

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### **Education**

The University of Texas at Dallas , BS Computer Science

Expected : December 2026

### **Clubs/Organizations**

- Association of Latino Professionals for America (ALPFA) – Member and Representative
- Society of Hispanic Professional Engineers (SHPE) – Member
- Lambda Theta Phi, Latin Fraternity Inc. – Member

### **Relevant Coursework**

- Computer Science 2, Discrete Mathematics, Linux/Unix , Computer Architecture

### **Certificates**

- Career Essentials in Data Analysis by Microsoft and LinkedIn

### **Projects**

#### **Simple Shell**

Spring 25

- Developed a Unix-style shell using C in the MobaXterm environment, supporting built-in commands like exit, cd, and history.
- Implemented inter-process communication through piping to enable special command chaining (e.g., ls | grep).
- Integrated error handling to manage invalid inputs and system call failures.
- Compiled the shell and ran through several test cases to ensure stability and correctness.

#### **Multi-threaded Hash Tree**

- Developed a multithreaded program using C in the MobaXterm environment to compute the hash value of a given file using a binary tree structure.
- Conducted performance benchmarking across multiple thread counts (e.g., 1, 4, 16, 64+) and analyzed the correlation between thread count and execution speed.
- Authored an experimental report summarizing the observed speedup, bottlenecks, and efficiency of parallelization.

#### **Simulated Multi-threaded Database Server**

- Developed a simulated key-value database server in C using POSIX sockets and threads in the MobaXterm environment.
- Implemented Put and Get operations with client-server communication over TCP using the AF\_INET protocol.
- Handled multiple concurrent client connections using pthread, simulating thread-safe request handling.
- Conducted testing with custom client programs and verified correct server responses for various inputs and cases.

### **Leadership Experience**

#### **Lambda Theta Phi, Latin Fraternity Inc. | Volunteer Chair**

May 2024 - January 2025

- Planned and organized bi-monthly volunteering events, coordinating with institution managers to align logistics and ensure meaningful impact.
- Managed member schedules to maximize attendance, fostering fraternity engagement and community presence.
- Collaborated with the Fundraising Chair, assisting in the execution of monthly fundraising events, in which we have raised \$700 in funds.

### **Skills & abilities**

- Programming Languages : HTML, CSS, C++, Java, Python, C
- Business Software: Excel, PowerPoint
- Languages: Fluent in English and Spanish