

# DAVID HOPE LIM

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## Education

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### Collin College

Computer Science & Information Technology — **GPA: 3.62** — *Dean's List*

**Aug 2023** – **May 2024**

*Plano, TX*

### The University of Texas at Dallas

B.S. — Computer Science — **Junior**

**Aug 2022** – **May 2026**

*Dallas, TX*

Notable Coursework: Data Structures & Algorithms, Systems Programming in UNIX, Software Engineering, Computer Architecture, Discrete Mathematics, Linear Algebra

## Technical Skills

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**Programming Languages**: Python, Java, C++, HTML, CSS, JavaScript, Bash/Shell, MySQL, MIPS, XML

**Software**: Windows, Linux, Microsoft Applications, VSCode, Git, Ubuntu, MARS, MobaXTerm, PuTTY, VI

**Libraries/Frameworks**: Docker, ROS, Node.js

**Hardware/Networking**: TCP/IP, UDP, GPS, Ethernet

## Project Experience

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### Amazon Delivery Tracker | [Source Code](#)

**Java**

- Developed a coordinate-based Amazon delivery tracker using **linked lists**, **binary search trees**, and **graphs** to manage driver data and optimize route validation
- Designed and developed a **custom user-defined hash table** using **simple chaining** and **rehashing** for rapid vertex lookups, improving delivery route validation performance
- Applied **traversal, sorting, and searching algorithms** to authenticate route validity, detect disconnected paths, and prevent invalid deliveries
- Optimized **file parsing algorithms** to efficiently read, process, and analyze **large data sets**, ensuring accurate extraction of **graph structures** and driver routes while maintaining scalability and error detection
- Collaborated on rigorous testing and debugging processes, ensuring data accuracy, efficient system performance, and clear documentation for seamless project maintenance.

### Diagnostic System: Autonomous Driving | [Source Code](#)

**ROS2** | **Docker** | **Python** | **C++**

- Engineered a meticulous diagnostic system of a **Level 4 fully autonomous driving** vehicle for UTDallas's autonomous driving **research** program using **Python**, **C++**, and the **ROS2** framework
- Examined and established a **fail-safe alternative** to critical faults within a full-stack software structure, providing a robust and **applicative error-detection system**
- Implemented an efficient **ROS2** service call system to traverse through a comprehensive node structure, utilizing **subscribers** and **publishers** to allocate and organize an array of **DiagnosticStatus** messages

### Personal Website | [Website](#) | [Source Code](#)

**HTML** | **CSS** | **JavaScript**

- Developed an intuitive **HTML** website tailored for a portfolio viewing experience using **CSS** and **JavaScript**, seamlessly finding a balance in **UI/UX** design
- Maintained and displayed multiple elements efficiently, establishing a seamless integration with **HTML** and **CSS** through the **development cycle**

### Quiz & Collage Website | [Source Code](#)

**HTML** | **CSS** | **JavaScript**

- Designed a **JavaScript**-oriented **HTML** website, utilizing **event listeners** to create a user-friendly quiz interface

## Additional Information

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**Languages**: English, Spanish (beginner)

**Eligibility**: U.S. Citizen, Available to work in the U.S. for internships full-time with no restrictions