Dylan Hall

DylanMatthewHall@outlook.com | (832) 240-6414
Boerne, TX 78006 | www.linkedin.com/in/dylanmh

Objective

Recent Computer Science graduate with experience in mobile development, machine learning, and research publication seeking an entry-level software engineering role to contribute technical skills and passion for innovation to impactful projects.

Work Experience

H-E-B **June 2025 - Present**

Produce Perishable Representative

- Maintain product quality and inventory by managing time-sensitive tasks in a high-paced retail environment.
- Communicate effectively with team members and customers, demonstrating reliability and professionalism under pressure.
- Utilize digital inventory systems and follow a procedural checklist to ensure product freshness and compliance
- Apply strong organizational and multitasking abilities, applicable to collaborative technical and engineering projects.

High Performance Engineering (HiPE) Texas State **Aug 2021 – 2024**

Software Engineer & Developer

Worked in an agile academic team to design and deliver mobile applications focused on accessibility and emotional interpretation for individuals with Autism Spectrum Disorder (ASD).

- Emotion Detection App: Built in Swift with a custom emotion detection CNN model implemented within the app to provide real time emotion prediction. Coauthored and published results in the 2023 IEEE AI IoT Congress.
- Object Detection App: Developed with YOLO-based object detection and text-to-speech through iOS interface for nonverbal ASD children.
- Presented at 2 TXST STEM conferences in 2024.

Private Tutor **Aug 2020 – 2021**

- Provided one-on-one tutoring in mathematics, computer science, and physics for students from middle school to college level.
- Supported over 30 students, many of whom returned for continued assistance as their coursework advanced.
- Communicated complex concepts clearly and adapted explanations to match diverse learning styles.

Projects

Credit Card Fraud Detection Using Machine Learning

- Built a supervised learning pipeline to detect fraudulent credit card transactions from a highly imbalanced dataset.
- Performed data preprocessing, normalization, dimensionality reduction (PCA), and class balancing (SMOTE).
- Achieved high recall and precision for identifying fraud cases, emphasizing minimizing false negatives.

Machine Learning Emotion Detection App and Object Detection App

- Assisted in the development of an innovative iOS app for children with ASD, leveraging Swift and machine learning algorithms to recognize and interpret facial expressions in real-time.
- Led the integration of pre-existing machine learning models into lightweight versions optimized for full functionality on iOS devices.
- Designed and implemented intuitive, user-friendly interfaces specifically tailored to accommodate the unique needs of ASD children, enhancing app accessibility and usability.

Hands On Developmental Experience

Languages: C++, Swift, Java, JavaScript, MySQL, HTML, Python, C#
Frameworks & Technologies: Git/GitHub, iOS development, PHP, VScode, Xcode, Node, Jupyter Notebook, AWS

Education

Texas State University San Marcos **May 2025**

Bachelor of Science in Computer Science
Minor in Applied Mathematics
Relevant Coursework: Data Structures & Algorithms, Object-Oriented Programming, Computer Systems Security, Computer Architecture, Algorithms & Analysis, Internet Software Development, Intro to Machine Learning, Computing Systems, and Human Factors.