Dylan Hall

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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

- Maintained product quality and inventory managing time sensitive tasks in a quick paced environment.
- Utilized digital inventory systems and followed a procedural checklist to ensure product freshness and standards
- Applied strong organizational and multitasking abilities, applicable to technical and engineering projects.

High Performance Engineering (HiPE) **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 children and young adults 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. Co-authored and published results in the 2023 IEEE World AI IoT Congress.
- Presented at two Texas State University STEM conferences in 2024.

Private Tutor **Aug 2020 - 2021**

Self Employed

- Provided individual tutoring in mathematics, computer science, and physics for students from middle school to college level.
- Supported over 30 with over half of them returning for additional tutoring sessions.
- Communicated complex concepts clearly and adapted explanations to match diverse learning styles.

Projects

Credit Card Fraud Detection - Machine Learning

- Utilized a Random Forest classifier in Python (scikit-learn) to predict credit card fraud, training on a highly imbalanced dataset.
- Performed data preprocessing, normalization, dimensionality reduction, and class balancing.
- 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 iPhone 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++ (Proficient), Java (Proficient), Python (Intermediate), SQL (Intermediate)
Technologies: Swing (Intermediate), AWS (Beginner), Git (Proficient)

Education

Texas State University San Marcos
Bachelor of Science Computer Science
Minor in Applied Mathematics
Relevant Coursework: Data Structures & Algorithms, Algorithms & Analysis, Object Oriented Programming, Internet Software Development, Human Factors, Computer Systems Security.