Andrew D. Leach

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Education

Texas A&M University - College Station GPA: **3.93/4.0**

Bachelor of Science in Computer Science *Expected May 2025*

- CSE Honors under Craig & Galen Brown Honors Engineering Program - 10% of graduating class admitted.

Experience

Undergraduate Lead Teaching Assistant - Data Structures & Algorithms Aug 2023 - Present

Texas A&M Department of Computer Science & Engineering

- Developed in-house C++ testing suite & autograder embraced by professors to eliminate grading constraints on programming assignments, exams, and homeworks for thousands of students across semesters. Collaborated closely with multiple course instructors to create exams and autograders, programming assignments, and more.
- Introduced prompts and test coverage in C++ for 3 exams & 7 programming assignments, enabling us to distribute points objectively and automatically across the student body saving over ∼2450 hours of grading over the semester, allowing professors & students to cover and apply knowledge of significantly more material.
- Responsible for handling course synchronization and management of 350+ students across 14 sections for required data structures & algorithms course. Produced material to be presented in recitations, held weekly office hours, and ran multiple labs weekly with undergrad students for hands on review of material covered in lecture.

Peer Teacher / Computer Science Tutor Jan 2023 - May 2023

Texas A&M Department of Computer Science & Engineering

- Tutored & supported hundreds of computer science undergrads over one semester, leading seven computer science courses with 10 hours of weekly instruction while a full-time student.
- Dedicated close to 30 hours during the semester to the creation and presenting of exam review aids for undergrad students to be used for current and future semesters by other teaching staff.

Projects

JP Morgan & Chase 2023 Code For Good Hackathon | *React + JS, TS, Python3, Flask, MongoDB* Oct 2023

- Worked alongside the support of six team members and two mentors over 24-hour period to develop solutions for outdated system used by non-profit CanCare Inc, which supports patients throughout their cancer journey.
- Balanced user retention challenges while maintaining accurate matches, producing a matching system calling on data generation & validation to interpret thousands of patient records to create meaningfully compatible survivor matches.
- Leveraged AI & LLMs to create a unique & interactive experience to reduce support stress and user wait time, as well as public forum to ask questions, share stories & milestones, and talk to others with similar experiences.

pypocketwatch 24/7 Pulse Monitor | *Python3, Raspberry Pi, Requests, SQLite3, crontab* May 2024

- Designed & documented my solution to a problematically redundant & unfeasible manual process for getting online sales information for any item, implementing an autonomous pulse monitor to scrape, filter, and report back any and all noise online relating to the sale of the Seiko SARY085/SRPC01J1.
- Developed "lazy" algorithm to identify & update only on unique findings, circumventing limited database space constraint for any queried items.
- Introduced myself to unfamiliar hardware domains, quickly learning & establishing an RPI4 compute engine instance to eliminate server cost overhead.

VR Web App | *React + TS, AWS, PostgreSQL, Prisma, Tailwind* Summer 2023

- Produced robust dashboard web application for SpaceCRAFT VR, streamlining user & organization process to improve operational efficiency for using space systems & mission control tools.
- Outlined and deployed dual-scope storage solution to handle user & organization assets, enhancing accessibility across local & cloud storage to reduce data retrieval time.

Technical Skills

Languages: C++, Python, Java, C, JavaScript, HTML/CSS, RISC-V ASM, SQL
Libraries and Packages: c++17, SpringBoot, OpenGL, GLM, scikit-learn, React, PyTorch, TensorFlow
Frameworks and Tools: Git, JIRA, AWS, pip, Maven
Applications: GitHub, BitBucket, VSCode, PyCharm, WSL, IntelliJ