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.
- Research assistant under Dr. Shinjiro Sueda, enhancing physics-based cloth animation with machine learning.
- Favorite courses - Computer Graphics, Operating Systems, Machine Learning, Competitive Programming.

Experience

Software Engineer Intern June - August 2024

J.P. Morgan Chase & Co.

- Engineered virtual assistant to resolve 74% of support tickets that end up as well documented and frequently occurring issues while avoiding live intervention.
- Performed real-time scraping of information across relevant documentation with non-relational database to efficiently store and retrieve responses on user query.
- Integrated natural language processing and reinforcement learning, using NLTK + WordNet to determine user intent. Determined optimal results with TFIDF and cosine similarity scoring algorithm, and user feedback.
- Responsible for planning, design review, documentation, and testing under Agile encryption team.

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

Texas A&M Department of Computer Science & Engineering

- Maintained and developed C++ testing suite and autograders embraced by faculty, streamlining objective grading process for thousands of students. Collaborated closely with faculty to design assignments and exams, communicate student feedback, and contribute to course decision-making.
- Created prompts and objective autograders for 3 FRQ's semesterly, relieving fellow TAs of manual grading which previously required ∼3-5 minutes per student, for over 300+ students, saving 60 hours of time.
- Managed course synchronization for 300+ students across 16 sections; maintained 7 programming assignments with test coverage and documentation; produced material for and ran weekly recitations; held routine office hours.

Peer Teacher / Computer Science Tutor Jan - May 2023

Texas A&M Department of Computer Science & Engineering

- Tutored and supported 100+ CS students across 7 courses, providing 10 hours of weekly instruction while a full time student. Contributed in weekly data structures & algorithms review sessions.
- Invested 30+ hours to creating comprehensive exam review aids on YouTube, garnering 8,300+ views and establishing knowledge base for future semesters.

Projects

J.P. Morgan Chase 2023 Code For Good Hackathon | *Python3, MongoDB, Flask, React + JS, TS* 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.
- Implemented survivor matching system using heuristics like cancer type, age, and experience. Generated test data with Python and Faker for patient records.
- Created AI-based chatbot pretrained on CanCare data to streamline user support process. Produced community forum for users to share anecdotes and milestones, ask questions, etc.

pypocketwatch | *Python3, Raspberry Pi, Requests, SQLite3, crontab* May 2024

- Automated checking sales information across hundreds of pages for the Seiko SARY085/SRPC01J1 through daily crontab-executed Python script, sending a notification to my phone if a match occurs.
- Designed "lazy" update algorithm for scraping to identify and update only unique information for any queried items, circumventing database space constraints.

Technical Skills

Programming Languages: C++, Python, C, Java, JavaScript, SQL, HTML/CSS, RISC-V ASM
Frameworks and Libraries: C++17, OpenGL, GLM, GLSL, CUDA, scikit-learn, PyTorch, React, SpringBoot
Tools and Platforms: Git, GitHub, BitBucket, AWS, VSCode, PyCharm, IntelliJ, WSL, pip, Maven
Project Management: Agile, JIRA, Confluence