Alysa Zhao

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Education

Texas A&M University College Station, TX
B.S. Computer Science, Math Minor *Expected May 2027*
Honors: President's Endowed Scholar, National Merit Scholar
Relevant Coursework: Data Structures & Algorithms, Discrete Math, Programming Design & Concepts (C++)

Technical Skills

Languages: C++, Python, Java, Typescript, JavaScript, SQL, HTML, CSS, R
Developer Tools: Git, Node.js, Vite, Supabase/PostgreSQL, Docker, Visual Studio Code, JupyterLab, Excel
Frameworks & Libraries: React, Next.js, Express, Tailwind CSS, Three.js, Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn
Certificates: DeepLearning.AI – Advanced Learning Algorithms, Supervised Machine Learning

Experience

Teacher Assistant Aug 2025 – Present
Texas A&M University *College Station, TX*
- Mentored 90+ students for ENGR 102 in **Python**, increasing assignment completion rate and exam grades
- Reinforced OOP and system design fundamentals, resolving 200+ code issues on site
- Managed **Excel**-based tracking systems to streamline assignments and improve team efficiency

AI Research Intern June 2025 – Present
University of Texas at Dallas *Richardson, TX*
- Rapidly self-learned **PPO**, **GRPO**, and **attention** mechanisms, improving model training speed & efficiency
- Analyzed reward conflicts in **rule-based RL**, reducing inconsistencies and enhancing task accuracy

Projects

Launch Pad | *Next.js, TypeScript, Three.js - **Best Student Life Hack @ HowdyHack*** Oct 2025
- Developed learning app using **Google's Gemini API** to parse resumes, analyze skill gaps, and generate roadmaps
- Integrated **Jina REST API** & LLM pipeline to scrape URLs and produce structured **JSON** for visualization
- Automated ICS export for recurring study events with dynamic scheduling and fully configurable preferences

Cartfish | *Express, React, TypeScript, Supabase* Sep 2025
- Engineered full-stack grocery savings app integrating **Kroger API** across **2,800+ stores** with session persistence
- Designed **PostgreSQL** schema with indexed foreign keys and 7-day TTL cache to minimize external API dependency
- Architected **OAuth 2.0 singleton** preventing token race conditions with preemptive refresh across 7 RESTful endpoints.

Miso Hungry! | *Scikit-learn, Python, Jupyter Notebook* July 2025
- Built an ML-powered web app with Javascript & HTML to recommend Asian cuisines based on pantry ingredients
- Trained **Scikit-learn** models (RFST: 86% accuracy) on **380+** ingredients, improving recommendation precision
- Visualized model architectures and performance metrics using Netron and Matplotlib to drive improvements

ArcaDOS | *Java* May 2024
- Coded a two-player interactive web applet with snake and brick breaker levels in Java.
- Developed back-end technology and front-end user-movement-based animation using Java AWT and Swing, and event listener GUI

Leadership & Awards

* HowdyHack 2025 – ***Best Student Life Hack***
* Aggie Competitive Programming Club – **Web & Outreach Officer**
* TACS (Texas A&M Association of Computing Machinery) – **Design Officer**
* National Merit Scholar – Top 0.02 % of Graduating Class
* 3x President's Volunteer Service Award – 500+ Service Hours
* 2nd Place Team, 2023 Computer Science UIL
* Congressional Art Competition, 2nd prize
* 2nd Prize, Sustainable Materials and Design, Dallas Regional Science and Engineering Fair