

# Ailun Pei

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## EDUCATION

**Arizona State University**, Tempe, AZ Aug 2020 – May 2025  
*B.S./M.S. in Computer Science, Accelerated Program magna cum laude*  
**Honors:** Dean's List, Academic Scholarship Recipient **Certifications:** Web Development

## EXPERIENCE

**Arizona State University**, Tempe, AZ Jan 2023 – May 2025  
*Graduate & Undergraduate Teaching Assistant (CPI 411 - CPI 111) & Grader (CSE220)*

- Instructed students in **advanced game graphics topics**, including **shaders**, **rendering pipelines**, and **Unity graphics APIs**
- Maintained weekly office hours and authored tutorial materials to support **project-based learning** in **C#**, **Game Maker Language (GML)**, and **Unity**
- Collaborated with faculty to design course content and reinforce learning in **game development**, **engine scripting**, and **interactive systems**

**Shandong Zhaojin Group Company Limited via Extreme Trading**, Shanghai, China June 2024 – Aug 2024  
*Software Engineer Intern*

- **Contributed to the development of a 64-bit trading terminal** used by **Zhaojin Refining**, a major player in China's gold market
- Refactored legacy **32-bit Windows client APIs**, improving performance and memory efficiency under real-time data loads
- Investigated and resolved **data inconsistencies** between **transaction logs** and **summary reports**, boosting reporting accuracy
- Collaborated with backend and QA teams to validate **RESTful API responses**, ensuring financial reporting compliance

## PROJECTS

**Health Monitoring App (iOS/Android)** Aug 2024 – Nov 2024

- Built a cross-platform mobile app to monitor heart rate using **camera signal processing**, and integrated **HealthKit / Google Fit** for real-time metrics
- Visualized user data including **step count**, **sleep patterns**, and **calorie intake** using native UI dashboards
- Architected modular pipelines in **Swift** and **Kotlin**, ensuring smooth performance across iOS and Android platforms

**E-Commerce Client with MySQL Integration** Sep 2022 – Oct 2022

- **Developed a desktop shopping interface** using Java and JavaFX, **supporting product browsing, cart management, and checkout flow**
- **Implemented secure** user authentication **and handled SQL queries for real-time interaction with a MySQL database**
- **Designed a normalized database schema to optimize product lookup and reduce data redundancy, improving query performance**
- Applied MVC design pattern and implemented input validation and exception handling to ensure robust transaction logic

## SKILLS

- **Programming Languages:** C++, C#, Python, Java, JavaScript, Bash, Swift, Kotlin, GML, HTML/CSS
- **Backend & Data:** RESTful API, JSON, XML, MySQL, pandas, Maven
- **Web & Frontend:** JavaScript, React, Vue, D3.js, HTML, CSS, Figma
- **Graphics & Visualization:** Unity, WebGL, OpenGL, MonoGame, Core Animation, UIKit, Adobe Suite
- **Tools & Platforms:** Git (CLI & GUI), Linux, Visual Studio, Xcode, Android Studio