

Xuedong Pan

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PROFESSIONAL SUMMARY

Software Engineer with full-stack experience in React, C#.NET, and modern Python web frameworks. Specialized in building 0-to-1 consumer applications, handling complex data migrations, and designing async job pipelines for heavy workloads. Quick learner who leverages AI tools to accelerate development and adapt to new tech stacks.

PROFESSIONAL EXPERIENCE

Software Engineer | Sonilo Inc, Menlo Park, CA

Mar 2026 – Present

- Architected and deployed an end-to-end consumer AI music platform using .NET 8 and React, successfully scaling the infrastructure to seamlessly handle a surge of thousands of active users during launch week.
- Built an internal administrative dashboard using FastAPI (Python) and React to streamline user management, subscription tracking, and platform monitoring.
- Set up asynchronous background queues using Hangfire and Redis to handle long-running AI model inference without blocking the main web threads.
- Implemented real-time frontend updates using Server-Sent Events (SSE) for audio streaming and WebSockets for background task status.
- Designed an idempotent payment and credit system using PostgreSQL unique constraints to prevent duplicate credit assignments during Stripe webhook retries.
- Acted as the sole full-stack engineer, utilizing AI coding agents (Claude Code) to quickly ship features and deploy the containerized app to AWS ECS.

Software Engineer | University of Iowa, Iowa City, IA

Jun 2025 – Mar 2026

- Developed backend services for the "Cambus Ridership" transit application using .NET 8, Entity Framework, and Angular 21.
- Migrated massive historical transit datasets to SQL Server, writing custom scripts and collaborating with stakeholders to resolve legacy data inconsistencies with zero data loss.
- Built a centralized audit logging system to track sensitive data changes, making root-cause analysis significantly faster during compliance audits.
- Moved heavy CSV data export logic from the backend to the frontend using TypeScript, reducing server load and removing reliance on third-party backend libraries.

Software Engineer Intern | Applied Medical, Rancho Santa Margarita, CA

May 2024 – Aug 2024

- Fixed critical memory leaks in a Learning Management System by removing an unstable third-party mapping library (TinyMapper) and writing strongly-typed manual object mappers.
- Optimized data access layer for read-only APIs by bypassing ORM identity mapping, resulting in faster query execution and reduced server memory overhead.
- Improved backend test coverage from 20% to 80% by writing over 500 xUnit tests and integrating them into the Azure DevOps CI/CD pipeline.

TECHNICAL SKILLS

Languages: Python, C#, JavaScript/TypeScript, Java, SQL, HTML/CSS

Frameworks: React, FastAPI, .NET 8, Entity Framework, Angular, Django, Flask

Infrastructure & Data: PostgreSQL, SQL Server, Redis, AWS (ECS/EC2), Docker, CI/CD

Concepts: RESTful APIs, WebSockets/SSE, Message Queues, Stripe Payment API, OAuth

EDUCATION

Northeastern University, San Jose, CA

Master of Science in Computer Science | GPA: 4.0/4.0

Sep 2023 – May 2025

San Jose State University, San Jose, CA

Bachelor of Science in Computer Science, Minor in Mathematics | GPA: 3.99/4.0

Aug 2019 – May 2023

Honors: Summa Cum Laude, President's Scholar (2020–2022)