

# Daniel Dong

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## WORK EXPERIENCE

**Software Developer** | *Samaritan Ministries International* | Peoria, Illinois

July 2024 - Present

- Engineered a **recursive C# algorithm** distributing **\$2M/month** across a \$20M+/year bill-sharing program, preventing billing spikes and reducing 300+ support calls monthly
  - Built an **automated Bill-Sharing service** processing **\$200K/month** and 1,000+ bills per run, eliminating 50+ hours of monthly work for Processors
  - Delivered production updates and features to a large-scale **React** application serving 250K+ members for bill management, share tracking, and real-time in-app messaging

Software Engineer Intern | *Suitcase* | Ann Arbor, MI

May 2023 - August 2023

- Architected the full-stack solution for Suitcase, a banquet room visualization tool, enabling dynamic 3D asset management and real-time user interactions
  - Developed **Django backend APIs** to serve the Unity frontend, managing user, vendor, and product data efficiently
  - Optimized a **PostgreSQL** database and asset delivery via **AWS S3/CloudFront**, achieving 60% faster room loading times for 5000+ 3D models

Software Engineer Intern | Altair Engineering | Irvine, California

May 2022 - August 2022

- Cleaned up thousands of Fortran77 and Fortran90 files by developing automated Python scripts to reduce errors, enhance codebase cleanliness, and increase development efficiency
  - Streamlined complex Fortran declarations/subroutines, replaced deprecated functions, and removed unused variables with scripts, earning recognition from the HyperWorks Core Development team

## TECHNICAL SKILLS

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

**Frameworks:** .NET Core, Entity Framework, Django, React, Vue.js, Node.js

**Tools/Platforms:** Git, AWS (EC2, S3, RDS, CloudFront), Azure, PostgreSQL, SQLite, Moq, Linux, Visual Studio

## RELEVANT PROJECTS

Multi-Threaded Network Fileserver | C++

- Engineered a network file server with socket programming for efficient client-server communication with multiple clients
  - Implemented multi-threading to manage concurrent client requests with thread synchronization for high server responsiveness and effective resource allocation
  - Developed read, write, create, & delete file system functionalities with crash consistent protocols to ensure data integrity

Pager for Virtual Memory Management | C++

- Designed an external pager for virtual memory management in application processes, handling read/write faults
  - Created a page fault handling system, employing C++ smart pointers to manage page table entries
  - Executed thread-safe synchronization in a multi-process environment with mutex, lock\_guard, & shared\_lock for deadlock prevention and RAII-based resource control

RANKED – Offline-First Ranking App | *React Native, TypeScript*

- Built a cross-platform mobile app for creating and managing custom rankings using **React Native**, with **Supabase** for authentication and cloud synchronization
  - Implemented an **offline-first architecture** with local **SQLite** storage as the primary data source and background sync for remote updates and conflict resolution
  - Ensured data consistency through **transaction-safe operations**, rank offset handling, and optimistic updates with automatic rollback on failure

EDUCATION

University of Michigan - Ann Arbor

April 2024

## *B.S. in Computer Science and Cognitive Science*

**Relevant Coursework:** Data Structures and Algorithms, Web Systems, Operating Systems, Database Management Systems, Machine Learning, Mobile App Development, Computer Vision

**Interests:** Sports (Basketball, Tennis, Volleyball, NBA), Music (Vocals, Guitar, Drums, Songwriting), Cooking, Baking

**Fluent Languages:** English, Mandarin, French