Ahmad El-Fakharany

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Experience

WebstaurantStore **Lititz, PA (Remote)**
Software Engineering Intern *Jan 2026 – Mar 2026*

- Refactored legacy C# code in ASP.NET Core REST APIs by replacing MediatR with a more streamlined API endpoint request handling method, reducing resource overhead and improving maintainability through unit testing and peer code review collaboration.
- Completed full development lifecycle on a tech debt ticket using Azure DevOps, Git, and ASP.NET Core, from initial PR submission through QA testing and production deployment across TEST and PROD environments.
- Developed proficiency in Agile workflows, C# fundamentals, and debugging techniques while working on the Catalog Authoring team's content management tools, applying knowledge of clean code principles and RESTful API design.

Projects

Home Server | Bash, Linux, Docker

- Designed and implemented a comprehensive home server using a Raspberry Pi, integrating advanced features such as Nextcloud, Pi-Hole, and Immich for a fully functional home server system.
- Configured a custom backup solution utilizing rsync over SSH, automating data protection through scheduled nightly backups to an old Dell laptop running Ubuntu Server.
- Implemented Tailscale for remote access and managed DNS through a self-hosted Pi-Hole, ensuring efficient network management and enhanced usability.

Autodidact | React, TypeScript, Tailwind CSS, Supabase, ASI:One, Vite

- Spearheaded the end-to-end development of an AI-driven learning platform, coordinating architecture decisions and integrating Fetch.ai's ASI:One LLM API to deliver personalized, modular educational roadmaps.
- Collaborated with teammates in architecting and implementing seamless Supabase integration for dynamic storage and retrieval of learning modules and quizzes, ensuring robust data management and scalability.

Word Morph Path Solver | C++

- Designed and implemented a C++ program to transform a start word into an end word using user-specified morph modes, addressing the challenge of pathfinding through a dictionary with complex transformation rules.
- Leveraged breadth-first and depth-first search algorithms to efficiently discover valid word morph sequences, resulting in a robust program that efficiently processes over 200,000 entries/second and handles both simple and complex dictionary formats as required by the project specification.
- Delivered precise output in both word and modification modes by reconstructing transformation paths and formatting results according to strict autograder and user requirements, ensuring full compliance with project objectives.

Terminal Euchre | C++

- Developed a complete C++ implementation of the Euchre card game using object-oriented programming principles, featuring classes for Card, Pack, Player, and Game to simulate gameplay with both AI and human players.
- Applied inheritance and polymorphism to create Player subclasses (SimplePlayer and HumanPlayer) that handle distinct strategies for trump ordering, card leading, and trick-playing, ensuring modular and extensible code.
- Implemented game mechanics including deck shuffling, card dealing, trick-taking with proper Euchre rules (trump, bowers, and scoring), and command-line interface, resulting in a faultless program that passes all unit tests and matches specified outputs.

Education

University of Michigan **Ann Arbor, MI**
B.S. in Cognitive Science (Computation Track), Computer Science (minor) *Expected April 2027*

- **Relevant Coursework (fully and partially completed):** Data Structures and Algorithms, Object-Oriented Programming, Statistics and Data Science, Linux Tools, Computational Linguistics, Calculus II, Discrete Math

Skills

Languages: C, C++, C#, Python, SQL, Bash/Zsh, JavaScript, HTML/CSS
Tools/Technologies: Git, .NET, Docker, Linux/Unix