Mohamad Zaatari

Software Engineer

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Summary

Software Engineering major, graduated in 2024, with a vast project portfolio. Strong technical and analytical skills in programming, honed through extensive university coursework and practical experience.

Education

Bachelor's Degree in Software Engineering – 2020 to 2024

University of Michigan - dearborn, USA

Relevant engineering courses

• Engineering Probability and Statistics • Data Structures & Algorithm Analysis for Software Engineers • Discrete Structures I, II • Software Engineering Tools • Software Engineering I, II • Computer Networks and Distributed Processing • Operating Systems • Software Architecture and Design Patterns • Game design I, II.

Certifications

- William J. Brainstorm Freshman Prize for Academic Excellence
- James and May Bell Loeb Scholarship
- William and Alice Jenkins Memorial Scholarship
- Honor Scholar Award in Software Engineering
- Mariana Doughan Engineering Scholarship
- Honorable mention in CIS Senior Design Award
- Practical Aspects of Computer Security (PACS) Certificate

Skills & Expertise

- Microsoft office proficiency
- Documentation
- C#
- Unity
- Unreal Engine
- C++
- XAMPP
- Humhub (HTML/CSS/Javascript)
- C
- SQL
- Github
- Python
- Java
- Computer Software Skills
- Critical Analysis
- Team Management
- Teamwork
- Problem Solving
- Time Management
- Agile Software Development

Experience

Mercedes-Benz – 2024

Internship, Software engineer

- Hands-on experience with the software development process
- I conducted research on the Open Charge Point Protocol (OCPP), which is used for communication with electric vehicle (EV) chargers
- I contributed to the development of an app using Python that integrates with OCPP-compliant chargers
- Establishing and managing WebSocket connections
- Handling OCPP calls in the central system
- Developing frontend components using Streamlit
- Contributing to both frontend and backend development
- Version control with Github

University Software Projects – 2020 to 2024
University of Michigan - Dearborn, USA

- **Space Invaders Game (C#)**
  - Developed using Visual Studio's Universal Windows Platform, with basic visuals and colliders.
  - Collaborated on creating the classic Space Invaders game, focusing on collision detection between the ship and other entities, power ups, among other things
- **2D Top Down Chess Shooter (Unity 2D with C#)**
  - Designed a turn-based game where two players move on a checkerboard, dictated by dice rolls.
  - As part of a team of four, I implemented key features such as power-ups and movement restrictions based on the dice count, among other things
- **3D Tower Defense Game (Unity 3D with C#)**
  - Gained experience in raycasting and implemented two shooting mechanisms: direct raycast hits and bullet objects traveling toward the reticle.
  - Worked on enemy AI, power ups among other things.
- **Keepy Uppy Karl (Unreal Engine)**
  - Developed in Unreal Engine using the Blueprint system.
  - I focused on coding game logic, including collision detection, throwing mechanics, score system, sound cues, chores, animations, and UI. The team handled character and level design.
- **Farm Game (Unreal Engine)**
  - Developed alone in Unreal Engine using the Blueprint system.
  - I used this project to enhance my current skills while building on top of them. Some of the important things I did include multiplayer (replication, session creation/deletion etc…), planting, watering, harvesting, processing, selling, AI merchant, shared money and an inventory system among other things.
- **Store Management Program (C++)**
  - Created a simple C++ console interface for managing a store, allowing users to add items and track their prices.
- **Home Inventory Management system (Java)**
  - Worked on the frontend for this project (HTML/CSS/Javascript) and handled all sorts of inputs including input validation, Item and store addition/deletion, login, shopping list and website tabs among other things.
  - For the backend we used Springboot (Java), I helped debug our backend code as well as QA.
- **Airline Seat Reservation Program (C++)**
  - Developed a console-based airline seat reservation system with features like seat statistics, reservation and cancellation, and file-based data storage.
- **Garfay Social Media Website (Humhub)**
  - Developed a social media website as a final year project for our client. (Combination between Pinterest and Yelp)
  - It uses the Humhub framework that is based on a PHP, htm, javascript and css stack. Uses an SQL database.
  - Worked on dislikes, UI, authentication tokens, login, sign up, sql, documentation among other things.
- **Crypto Market (Uses Threading in Python)**
  - Implemented a client-server model with threading to support multiple simultaneous users.
  - Also included an admin account with exclusive commands.
- **Password Manager (C#, Integrates Different Design Patterns)**
  - Built a password manager using Windows Forms in Visual Studio.
  - Collaborated on implementing various design patterns including Chain of Responsibility, Builder, Singleton, Observer, Mediator, and Proxy.

Languages

Arabic: Native | **English:** Fluent | **French:** Fluent