**Adrian Manchado**

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Portfolio: <https://manchado53.github.io/>

**SUMMARY**

## B.S. Computer Science and Mathematics Minor student at MSOE with internship and team leadership experience. Numerous hands-on, team-based and independent project experiences. Devoting 20 hours per week as a NCAA athlete, along with 10 hours per week with MSOE AI Club and Competitive Programming Club. Presented Data Driven Wisconsin Conference participation to company leadership. Bilingual in Spanish and skills in Python, SQL, Artificial Intelligence, Mathematics, Data Mining, Jupyter Notebooks, and full-stack development.

**EDUCATION**

**B.S. Computer Science** | Math Minor | Milwaukee School of Engineering | GPA: 4.0 | Exp. May 2026

**TECHNICAL SKILLS**

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| --- | --- | --- | --- | --- | --- |
| * Python * PostgreSQL * Data Mining * Pandas | * Artificial Intelligence * Jupyter Notebook * Data Structures * Math | * C#, C++ * Typescript * Angular, React * OOP & FP | * Git * HTML * Scrum * Java & JavaFX |  |  |

**WORK EXPERIENCE**

**Software Development Intern** | New World Now | Milwaukee, WI | May – August 2024

**Objective**: Refactorization and improvement of existing event attendance tracking app that allows training authorization through QR Codes and roster registration to ensure childcare provider compliance with training.

* Developed full stack creating endpoints, altering frontend logic, and making database and API calls to accomplish client satisfaction and requests, using different technologies and frameworks such as Angular, C#, HTML, SQL, and Typescript, to make the app a cutting-edge site.
* Designed architecture of app and established the connection with identity provide, and handled the user flow to ensure they were authorized after login or logout and that they were redirected to the right routes.
* Designed 12 different sites using the same codebase to handle different clients, connecting project with existing UX design to be modified depending on the client, allowing client branding.
* Collaborated in a team environment following the Scrum framework dealing with client deadlines, sprint planning, work retrospection, and code review with feedback and documented the process so the new technologies could be duplicated by other teams after me.
* Initiated “Question of the Week” to foster networking and communication with entire team.
* Presented the final product to clients nationwide – app architecture in production and part of catalog.

**PROJECT EXPERIENCE**

**Soccer Game Footage Analysis System| Men’s Soccer Team & AI Club Research Project:**

**Objective:** Create an AI Model able to track the statistics of our soccer games based on video, and we will create a UI that will display the stats to improve the analysis of our games.

* Implement an object detection system in images and videos using YOLO.
* Generate a labeled dataset based on footage of our games that will feed the model and track the different elements necessary for the game. Train YOLO withdataset to enhance output
* Assign players to teams based on colors of t-shirts using Kmeans for pixel segmentation and clustering.
* Implement perspective transformation using OpenCV to represent the scene’s depth and perspective in meters rather than pixels.
* Record statistics based on different features of the game. Possession %, chances, attacking heatmaps.
* Optimized processing pipeline for real-time performance

**Website Development | Practice Generator and Statistics Tracking (Team of 6) Project Objective:**Create a website for the MSOE Men’s Soccer Team for coaches to generate practice plans and random teams while tracking performance statistics through different drills.

* Created a user-friendly interface using React for teammates and coaches.
* Developed Python API to pass information between frontend and backend.
* Utilized PostgreSQL database to store the data for statistics tracking and to generate practice teams.
* Deployed website with AWS Amplify and Lambda to ensure accessibility and functionality for the team
* Implemented a login system to ensure only coaches and current players could update statistics.

**Result:**Successfully launched a fully functional website that supports daily practice planning, team creation, and performance tracking. **Website:**<https://raider->stats.com

**MSOE Hackathon Competition (Team of 6): Next-Step Clinic AI Workflow:** Use Machine Learning to optimize user navigation of Next-Step medical clinic website to provide effective resources.

* Created user-friendly interface for autism patients and families using React.
* Created a database with patient information and data in SQL.
* Developed an embedded model to find best-fit, unique helpful resources for every patient.
* Created an API using FastAPI to test application for future modifications for optimal performance.
* Used ChatGPT to summarize database information for use to match patient’s needs.
* Secured information by encrypting data transferred between the API and the front-end.

**Result:** A concept API with a website that takes patient input and provides most effective resources based on user needs to improve customer satisfaction.

**Independent Project - Alien Invasion Game**: Developed a replica of the game Alien Invasion in Python – the project started in class, and I independently finished using Internet resources

* Resolved technical challenges and implemented creative solutions during the development process.
* Applied concept in game development using Python and the library Pygame to bring the Alien Invasion game from concept to completion.
* Implemented innovative design elements, including unique alien characters, immersive environments, and intuitive user interfaces, enhancing the overall player experience, and garnering positive user feedback.

**NCAA STUDENT-ATHLETE EXPERIENCE**

**MSOE NCAA Soccer Team** |  Sep 2022 - Present  |  20 hours per week

* Balance 3 term, 2-hour, daily practice, off-season training & bi-weekly game travel with full-class schedule.
* Study, learn, and execute numerous game strategies, mechanics, and systems.
* Practice troubleshooting and problem-solving techniques in high-stress, real-time competition environment and immediately modify strategy accordingly.

***Developing teamwork, communication skills, time management and prioritizing skills, competitive character, highly disciplined work ethic, and performance excellence.***

**LEADERSHIP | CO-CURRICULAR INVOLVEMENT | COMMUNITY SERVICE**

* **AI Club Research Group** | MSOE | September 2023 - Present (5 hours per week)
* **Treasurer | Competitive Programming Club** | MSOE | February 2024 - Present (5 hours per week)
* **Captain of Soccer Teams** | Selected as captain of multiple teams 5 times throughout soccer career.
* **Fundraiser for Non-profit organization** | Caritas Association | (2018-2022)
* **Finished 4th out of 50 in Midwest Instruction & Computing Symposium competition.**

**WORK HISTORY**

* **Sales Agent** | Cardamomo Flamenco | May – Aug 2023 (40 hours per week)
* **IT Help Desk Assistant** | Cardinal Stritch University | Feb – May 2023 (20 hours per week)
* **Business Office Assistant** | Cardinal Stritch University | Feb – May 2023 (20 hours per week)
* **Industrial Manager** | Juanjo SA | May – Aug 2022 (30 hours per week)
* **Independent Reseller**  | Sept 2020 - May 2022