

# Matthew Saperstein

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## EDUCATION

<b>Northwestern University — McCormick School of Engineering</b>	Sep 2021 – Jun 2025
Bachelor of Science in Computer Science, Minor in Data Science	Evanston, IL
<ul style="list-style-type: none"><li>GPA: 3.78; Honors: Dean's List</li><li>Relevant Coursework: Data Structures &amp; Algorithms, Object-Oriented Programming, Functional Programming, Scalable Software Architectures, Foundations of Data Science, Machine Learning, Digital Product Development, Computer Graphics, Social Network Analysis, Foundations of Optimization, Intro to Computer Systems</li></ul>	

## SKILLS & CERTIFICATIONS

**Skills:** Python, C, JavaScript, React, Go, C++, Git, MATLAB, SQL, R, HTML, CSS, Figma, Tableau, UNIX, AWS  
**Certifications:** [CodePath](#) Certificate in Intermediate Technical Interview Prep (June 2023 - August 2023)

## EXPERIENCE

<b>Software Engineering Intern</b>	Jun 2024 – Aug 2024
Capital One   Card Tech Team	Richmond, VA
<ul style="list-style-type: none"><li>Developed an interactive web application using Material UI for 12K engineers across the enterprise to view Playwright traces and failed tests in real time, facilitating the migration of 120+ repositories from Cypress to Playwright</li><li>Built a dynamic user interface to display test run details leveraging React, JavaScript, TypeScript, HTML, and CSS, boosting workflow efficiency and saving each developer 16 hours per year</li><li>Wrote comprehensive unit tests using React Testing Library and Jest, achieving 100% test coverage across the repository</li><li>Led hands-on coding lessons in HTML and CSS for 40+ middle school students as part of youth-focused tech bootcamp</li></ul>	
<b>Software Engineering Intern</b>	Jun 2023 – Aug 2023
Uniphore   Platform Engineering Team	Palo Alto, CA
<ul style="list-style-type: none"><li>Designed and built transcript search API connected to database accumulating 120 million conversations per month using Go and Amazon OpenSearch, enabling 100+ enterprises to efficiently retrieve all call transcripts related to a given topic</li><li>Expanded search capabilities by spearheading the implementation of boolean operators, synonyms, fuzzy match, time filters, and language filters to enable more tailored searches and optimize search time to 3 ms per 100,000 documents</li><li>Refactored functions using fewer inputs to improve design and performance of new centralized data model for 4 AI products</li><li>Contributed to Agile/SCRUM team through stand-ups, sprints, planning sessions, and user story creation managed via Jira</li></ul>	
<b>Teaching Assistant</b>	Dec 2022 – Jun 2023
Northwestern University   Computer Science Department	Evanston, IL
<ul style="list-style-type: none"><li>Guided 200 students in mastering foundational software design skills, including C/C++, testing, memory management, pointers, and UNIX shell usage, during Object-Oriented Programming course, reducing drop rate by 10%</li><li>Assisted 80 students individually with debugging C/C++ assignments with 1,000 lines of code each during 4 weekly office hours, receiving a rating of 92% in student evaluations for adequately answering questions and communicating clearly</li><li>Strengthened students' programming abilities by conducting comprehensive weekly code reviews, delivering personalized feedback to 70 students per term on coding style, test coverage, and efficiency to foster continuous improvement</li></ul>	

## PROJECTS

<b>iShareGlobalFootball</b>   Scalable Software Architectures	May 2024 – Jun 2024
<ul style="list-style-type: none"><li>Created a cloud-native, multi-tier app for soccer fans to track their favorite teams using Python, Node.js, AWS RDS, MySQL, and the football-data.org API, providing real-time data from 200+ teams across 13 leagues worldwide</li><li>Implemented account creation, login, team logo display, friend following, and lookup of any team's 5 most recent games</li></ul>	
<b>ValueBall</b>   Northwestern Sports Analytics Group   <a href="#">GitHub</a>	Jun 2023 – Sep 2023
<ul style="list-style-type: none"><li>Spearheaded the creation of a Python-based web scraping and data visualization tool to provide fantasy football team managers with real-time player rankings and insights, demonstrating proficiency in web technologies and data manipulation</li><li>Implemented a live analytics display utilizing a bar plot, showcasing which top 40 receivers are overvalued/undervalued</li></ul>	
<b>Bus Tracker App</b>   Ramah Day Camp	Jun 2022 – Aug 2022
<ul style="list-style-type: none"><li>Digitized tracking of 40 buses bringing 350 campers to camp daily by independently programming an app using React Native</li><li>Developed intuitive user interface that facilitates real-time tracking of 40 buses, synchronizing communication between Camp Director and Head of Transportation on buses that have arrived and ensuring camp starts on time every day for 800 campers</li></ul>	

## LEADERSHIP & INTERESTS

<b>Sports Director</b>   Northwestern News Network Sports TV Station	Mar 2024 – Present
<b>UI/UX Designer</b>   Northwestern University Dance Marathon	Jul 2022 – Jun 2023
<b>Student Council President</b>   Golda Och Academy	Jan 2020 – Jan 2021
<b>Interests:</b> Baseball, Cooking, Pixar Movies, Graphic Design, Road Trips, NY Bagels, ESPN College GameDay	