Mark Stanley

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EDUCATION

University of Wisconsin-Madison   May 2027
B.S. in Computer Science, Mathematics, and Philosophy   *GPA: 3.74/4.00*
Related Courses: Introduction to Artificial Intelligence, Building User Interfaces, Linear Algebra, Applied Linear Algebra, Introduction to Probability Theory, Machine Organization, Programming III, Data Structures and Algorithms

EXPERIENCE

Software Technical Lead   May 2024 - December 2024
Wisconsin Messenger   *Madison, WI*
- Led two teams of 5 software engineers each, while coordinating with an additional 10+ developers to deliver a digital newspaper project, sent out to over 47,000 students.
- Directed and contributed to developing a Python program extracting 8,000+ articles weekly from 130+ RSS feeds, using NLP techniques to group, filter, and recommend articles for publication.
- Integrated over 125 unit and integration tests to ensure robust software and data extraction.
- Spearheaded the development of a React and TypeScript website showcasing the latest publications and providing an intuitive interface for browsing archived articles.
- Authored technical documentation for software development processes, reviewed over 60 GitHub pull requests to ensure code quality, and facilitated Agile ceremonies across all teams.

PROJECTS

Bots for Ultimate Tic-Tac-Toe | *Python, PyTorch, CNN, Deep Learning*   *Dec 2024 - April 2025*
- Developed multiple AI agents for U3T using PyTorch, fine-tuned for position evaluation.
- Restructured and optimized an 8-million-example dataset generated via Monte Carlo Tree Search (MCTS) into an optimized format, then transformed it into tensors and labels for training.
- Developed and trained convolutional and deep dense networks to optimize game state evaluation, outperforming previous bots in head-to-head performance.
- Designed full game logic in Python, enabling seamless integration with AI agents for gameplay.

SpotifAI | *React, Next.js, TypeScript, Gemini API, Spotify API*   *May 2024 - July 2024*
- Developed a full-stack web application that utilizes the Spotify API and its authorization flow to create and generate playlists for Spotify Users using Next.js.
- Integrates with the Gemini API's LLM to recommend a playlist title based on the playlist image and contents of the playlist.

GitHub ReadMe Philosophical Quotes API | *Express.js, React, SQL*   *April 2024 - July 2024*
- Engineered an Express.js function component API on Vercel that uses REST to generate a unique SVG of a random quote from 39 famous philosophers, for use in GitHub ReadMes.
- Created a full-stack demo website using Vite + React + TypeScript to allow users to easily get the HTTPS request parameters to use in their personalized requests.
- Utilized SQLite to store and access each of the 100 unique quotes.

Wisconsin Family Home Finder | *Python, Flask, React, API, UI/UX*   *February 2024*
- Developed a full-stack web application with a team utilizing React and Flask to assist families in selecting the ideal city in Wisconsin from a pool of 256 based on their personal preferences.
- Collaborated with a team to design a Python Flask backend that filters data based on 4 key metrics: safety, employability, education, and budget, to recommend a city to the user.

COMPUTER SKILLS

- **Programming Languages & Technologies:** Python, JavaScript, TypeScript, Java, C, MATLAB, React, React Native, Node.js, Next.js, Express.js, Flask, REST, SQL, LaTeX
- **Development Tools:** Git, AWS, Google Cloud, Docker, Unix/Linux environments, Figma, Vercel, GitHub Actions, MongoDB, Postman, Jupyter Notebook, wit.ai, Hugging Face
- **Libraries:** PyTorch, TensorFlow, scikit-learn, NLTK, NumPy, SciPy, pandas, Polars, geopandas, PyArrow, Matplotlib, OpenCV, Lightning AI
- **Design and Development Methodologies:** Full-Stack Web Development, Machine Learning, Deep Learning, Computer Vision, Object-Oriented Programming, Test-Driven Development, Software Architecture, CI/CD, Agile Methodologies, DevOps, Technical Project Leadership