Dane Froelicher

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Software Engineer and Automation Analyst with a strong foundation in algorithms, optimization, and full-stack systems. Interested in roles spanning AI, machine learning, and software development.

EDUCATION

University of Louisville - Bachelor of Science in Computer Information Systems 2020-2024
Minor: Finance

Skills

Languages: JavaScript, TypeScript, C, C++, Rust, Dart, CSS, HTML, SQL, Perl, Python
Technologies: Git, Linux, React, Next.js, PyTorch, Docker, Vercel, Render, ONNX, MySQL, PostgreSQL

EXPERIENCE

Space Technology Analyst, PL Marketing - Newport, Kentucky (Hybrid) Oct 2024 - Present

- Develop commodity-specific algorithms utilizing JavaScript and Rust generating optimized planograms across the Kroger enterprise.
- Engineer mathematical optimization logic to automate tasks previously done manually, focusing on product positioning, fixture constraints, and spatial rules
- Collaborate cross-functionally with category managers to clarify requirements, validate rule sets, and align on automation outputs.

Data Analytics Internship, Siemens - Louisville, Kentucky (Remote) Dec 2022 - May 2024

- Led and managed multiple cross-functional data projects, serving as the central point of contact for data collection, processing, and visualization for leadership.
- Held meetings with 100+ attendees and coordinated bi-weekly progress check-ins. Built Tableau dashboards and executive presentations to track sustainability progress for Siemens' carbon-neutral initiative.
- Served as the primary contact for supplier account updates, including new account creation, reactivations, banking changes, and user information corrections. Produced quarterly analytic reports summarizing changes for leadership.
- Managed system/tool access rights for Siemens users across North America, reviewing, approving, and documenting access requests for internal platforms.

Projects

Chess Engine Learn more

- Classical Chess Engine: Built in C++ using alpha-beta pruning, iterative deepening, quiescence search, transposition tables with Zobrist hashing, and multi-faceted position evaluation
- Neural Network Integration: Curated training dataset from Lichess GM games and self-play engine matches, processing positions in Linux pipeline; trained PyTorch model achieving 0.35 pawn MAE and deployed on Render via ONNX Runtime

Conversationalist AI Learn more

- Python-based conversational AI with OpenAI Whisper speech-to-text, Ollama local LLM inference, bcrypt authentication, PostgreSQL persistent memory, and pyttsx3 TTS; hands-free operation with wake word detection
- Deployed voice assistant to Raspberry Pi 5 for standalone operation; scalable multi-room system with computer vision for security applications including face recognition, person tracking, and conversation handoff between distributed nodes

Interests

Strength Training, Chess, History, Golf, Elden Ring, One Piece