Sydney Newmark

Austin, TX | linkedin.com/in/scnewmark | github.com/sydrinea

EDUCATION

Worcester Polytechnic Institute (WPI), Worcester, MA *May 2028*

Bachelor of Science in Computer Science | GPA: 4.0

Relevant Coursework: Algorithms, Operating Systems, Database Systems, Discrete Mathematics, Foundations of Computer Science, Object-Oriented Design, Machine Organization and Assembly Language

WORK EXPERIENCE

Peer Learning Assistant, *WPI Computer Science Department* *Aug 2025 – Present*

- Facilitate labs and office hours for 100+ students across introductory and intermediate CS courses
- Mentor students on algorithmic problem-solving and debugging strategies for programming projects
- Evaluate weekly assignments and exams, providing detailed feedback on correctness and design

Courses: Intro to Program Design, Object-Oriented Design Concepts, Foundations of Computer Science, Machine Organization and Assembly Language

PROJECTS

Delta — Theory of Computation Tools — comptheory.tools *Mar 2026 – Present*

- Built a code-first IDE for designing and testing finite automata and Turing machines in TypeScript
- Implemented Chomsky's hierarchy, NFA→DFA subset construction, Thompson's construction, and a step-through state visualizer
- Shipped with a fluent builder API, inline test suites, shareable URLs, and full documentation

endereye — MCSR Ranked Live Odds — lcqtracker.vercel.app *May 2026 – Present*

- Built a Monte Carlo survival odds calculator for competitive Minecraft speedrunning events
- Modeled per-player performance using Elo, win rate, and completion time; backtested across 4 seasons with AUC 0.886 vs. 0.762 baseline ($p < 0.001$)
- Implemented deterministic clinch and safety guarantees with zero violations across all backtested events

Kyanite — Compiled Programming Language — github.com/sydrinea/kyanite *Aug 2023 – May 2024*

- Engineered a statically typed, compiled object-oriented language for ARM64 with sequential field layout and dynamic dispatch
- Applied recursive descent parsing and Intel/ARM assembly conventions to generate native executables via a custom IR backend
- Presented progress and findings to peers and faculty across two semesters of independent study

Olly — Othello Game Client & Server — github.com/sydrinea/olly *Jan 2024 – Jun 2024*

- Developed a full-stack web application enabling two-player online gameplay in real time
- Built backend services with PostgreSQL and Redis to manage game metadata and synchronize board states
- Designed Docker- and Nix-based environments to ensure consistent cross-system builds; implemented Negamax AI as a move companion endpoint

LEADERSHIP & ACTIVITIES

- **CyberPatriot, Linux Specialist** — top 16% nationally, top 3% in Texas (Platinum Open Division); hardened kernel parameters, user permissions, and firewall to stop exploits
- **Magic: The Gathering Club, WPI** — compete in weekly events; apply hypergeometric probability to deck optimization

TECHNICAL SKILLS

Languages: TypeScript/JavaScript, Rust, Python, Java, C++, SQL, HTML/CSS, LaTeX
Technologies: Node.js, React, Next.js, PostgreSQL, Redis, Docker, Nix, Git
Systems: Linux, UNIX, macOS