Bradley Cederholm

425-300-0900 | bradley@cederholm.dev | www.cederholm.dev | linkedin.com/in/bradleycederholm/ | github.com/Hqllow

Education

University of Florida Gainesville, FL
BS, Computer Science (3.80 GPA) *May 2028*

Experience

Strategy Lead Aug. 2025 – Present
Solar Gators *Gainesville, FL*

- Architected telemetry systems, data-driven simulations, and web applications for the Solar Gators solar racing team.
- Optimized track speeds at FSGP 2025 using simulation and telemetry software, increasing laps by 286% for a first-time track solar car.
- Earned promotion to youngest Strategy Lead after 2 semesters as a team member.

Projects

FSGP Track Simulation | *TypeScript, Golang, REST APIs, Optimization, Simulation* Aug. 2025 – Present

- Architected a physics-based race simulator for the Solar Gators Flare car.
- Implemented predictive algorithms, multivariable optimization, and weather data ingestion to maximize speed and acceleration.
- Modeled energy expenditure and race performance using prior race data, discrete physics simulations, and weather prediction APIs for FSGP competition planning.
- Streamed simulation outputs live to the cockpit via an embedded interface and custom wireless network.

WikiRace | *C++, SFML, Graph Algorithms, Pathfinding* Aug. 2025 – Dec. 2025

- Built a high-performance C++ pathfinding tool to solve Wikipedia races across a graph of 7M+ nodes.
- Implemented tree-based search and optimized traversal to reduce search depth and improve solution time.
- Developed an interactive SFML visualization to explore paths, heuristics, and frontier expansion.

Telemetry Web Application | *TypeScript, React, Next.js, OAuth, CAN* Sept. 2024 – Aug. 2025

- Redesigned the Solar Gators telemetry platform into a scalable, real-time full-stack web application.
- Implemented custom graphing, real-time Google Maps API tracking, and data visualization with OAuth-based access control.
- Integrated real-time CAN ingestion with database-backed monitoring and bidirectional interoperability with the Track Simulation.

NASA App Development | *C#, Unity, 3D Simulation, Data Visualization* Sept. 2023 – Nov. 2023

- Led a six-person team to build and deploy a Unity simulation of the Haworth Crater using NASA datasets for the NASA App Development Challenge.
- Developed real-time data overlays, azimuth calculations for communications modeling, heatmap terrain layers, and first-person astronaut navigation.

ObamaBot V2 | *Java, JDA, Maven, Discord API, Automation* Apr. 2022 – Present

- Developed a feature-rich Discord bot using JDA with modular slash commands and scalable command routing.
- Implemented Mojang account validation and utility automation to support responsive server management.
- Packaged and maintained builds with Maven for consistent dependency management and deployment.

Technical Skills

Languages: C, C++, Golang, Java, C#, Typescript, Rust, Python, SQL
Frameworks: React, Next.js, Tailwind CSS, Node.js, Express.js, Unity, TensorFlow, PyTorch
Developer Tools: Git, GitHub, Maven, Docker, VS Code, IntelliJ, Eclipse, Postman, Linux, Jupyter, MongoDB
Libraries: SFML, JDA, TanStack Query, Zustand, Chart.js, D3.js, Three.js, gRPC, NumPy, pandas, Matplotlib, scikit-learn, Keras, Mongoose