

Nathan Barry

512-720-2001 | nathanbarry474@gmail.com | Austin, TX
github.com/nathan-barry | www.linkedin.com/in/nathanbarrydev/ | nathan.rs

EDUCATION

The University of Texas at Austin, Austin, TX Aug 2024 - May 2026
Master of Science, Computer Science GPA: 3.9
Relevant Coursework: Advanced Operating Systems, SysML, Generative AI, Compilers, ML Hardware Algo co-design

The University of Texas at Austin, Austin, TX Aug 2021 - May 2025
Bachelor of Science, Computer Science, Mathematics GPA: 3.7
Relevant Coursework: Distributed Computing, Advanced Computer Architecture, NLP, ML, Graphics, Algorithms

EXPERIENCE

Graduate Researcher - The University of Texas at Austin, Austin, TX Aug 2025 - Present

- Research in distributed low-communication training, advised by Professor Aditya Akella

Machine Learning Engineer Intern - Apple, Cupertino, CA May 2025 - Aug 2025

- Ad Platforms - Used machine learning to do time-series forecasting for predicting future traffic/load for predictive autoscaling, projected to **decrease the cloud costs by up to 20%** while maintaining system robustness.

Software Engineer Intern - TerraFirma Robotics, Austin, TX Dec 2024 - Jan 2025

- Developed a new coverage path planning algorithm for robotic automation. Parsed environment and vehicle configurations and used Reeds-Shepp and minimum bounding box tracks to generate a coverage path while avoiding obstacles.

Undergraduate Researcher - The University of Texas at Austin, Austin, TX Feb 2024 - Sep 2024

- Reimplemented and optimized a previous Google Research open source project for efficient exact-match search on internet-sized text datasets, **improving query speed by 1,000x** compared to the original Google Research implementation (0.4 seconds to 0.0003 seconds per query) **while requiring significantly reduced hardware requirements**. Used for LLM dataset contamination research.

Software Engineer, Freelance - Self-employed, Austin, TX Nov 2021 - Sep 2022

- Full-stack development work at multiple startups: Rust and TypeScript back-end; React and Svelte front-end.

PERSONAL PROJECTS (Available on Github)

GPT-2 WebGL - TypeScript, GLSL

- Implemented OpenAI's GPT-2 using WebGL/OpenGL shaders. **Received 330+ GitHub stars** and reached the **front page of Hacker News**.

Symbolic Math Library - Rust

- Built a Rust library for performing symbolic mathematics, supporting arithmetic operations, expression simplification, expansion, and evaluation. **Accumulated 3,700+ downloads on Crates.io**.

Cartography Dataset Mislabel Detector - Python, PyTorch

- Reproduced AI2's paper to detect mislabeled dataset examples and classify example difficulty, analyzing model confidence and variability across epochs (using the SNLI dataset and the ELECTRA small model)

SKILLS

Technical Skills: Python, Go, Rust, C, C++, JavaScript, TypeScript, Java, HTML, CSS, PyTorch, SQL, Verilog

LEADERSHIP & EVENT INVOLVEMENT

Meta 8VC Austin Hackathon - 1st Place Winner

- Built an AI agent-powered CLI tool and VSCode extension that automates the GDB debugging process.

Directed Reading Program - Mentor

- Led weekly research paper reading groups on distributed systems, operating systems, and machine learning.

Machine Learning & Data Science - Officer

- Organized 2 hackathons, delivered technical presentations, and managed the club's online presence.