

Nels Martin

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EDUCATION

University of Washington

Sep 2022 – June 2026

Bachelor of Science in Electrical and Computer Engineering

Seattle, WA

- **Coursework:** Data Structures and Algorithms, Intro to Database Systems, Digital Systems, Machine Learning for Signal Processing, Data Driven Machine Learning, Computer-Aided Reasoning for Software Engineering

EXPERIENCE

Research Assistant

March 2025 – Present

UW Lean Research Group

Seattle, WA

- Designed and implemented an end-to-end **reinforcement learning** system that interfaces with the Lean 4 theorem prover via the Language Server Protocol (LSP).
- Led development of a policy-gradient (REINFORCE) agent in PyTorch to dynamically suggest proof actions.
- Conducted research with a high degree of independence under the supervision of the Chair of the UW Electrical & Computer Engineering Department.
- *Technologies:* Python, PyTorch, JSON, Lean 4 Theorem Prover

Korry Electronics

June 2024 – Sep 2024

Electrical Engineering Intern

Everett, WA

- Resolved 100+ engineering problem reports by building test circuits and debugging designs.

nLight

July 2023 – Sep 2023

Electrical and Computer Engineering Intern

Camas, WA

- Programmed and calibrated prototype LiDAR cameras in **Python, LabVIEW, and Linux**.
- Delivered four functional prototypes used in investor presentations, directly supporting product strategy.
- *Technologies:* Python, LabVIEW, Linux.

PROJECTS

Web App - AutogramGenerator.com

- Built the first website that finds autogramic pangrams: sentences that describe their own letter counts.
- Developed front end with React and Typescript using the Next.js framework, and hosted website from Vercel.
- Wrote back end in Rosette, and deployed the program in a Docker container hosted on Google Cloud Run.
- *Technologies:* React, Typescript, Next.js, Vercel, Racket, Rosette, Docker, Google Cloud Run

ML Pipeline - SpeechDenoiserToWav

- Built a 1D Convolutional U-Net for audio denoising for a group project in EE 344: Data Driven Machine Learning.
- *Technologies:* Python, PyTorch, Hugging Face, Git, GitHub

Solver-Aided Tool - Correctness Checking and Memory Planning for ML Workloads

- Collaborated to design a domain-specific language (DSL) to express training pipelines and model architectures of ML workloads as part of the final group project for CSE 507: Computer-Aided Reasoning for Software Engineering.
- *Technologies:* Python, PyTorch, Racket, Rosette, Git, GitHub

ACTIVITIES & LEADERSHIP

Sketch Director and Performer - The Collective Improv Troupe

- Wrote, directed, and performed with others in an original sketch comedy show. Coordinated sketch writing, set building, and costume making. Performed for hundreds of people and raised hundreds of dollars for the club.

Engineering Peer Educator - Emerging Leaders in Engineering Scholarship

- Mentored and taught a class of 25 first-year engineering students how to be successful as engineers at UW.
- Received the Emerging Leaders in Engineering scholarship of \$1,800.

SKILLS

Languages : Python, PyTorch, JavaScript (React.js), Lean, Racket, Rosette, SQL, Java

Tools : Git, GitHub, Next.js, Vercel, Docker, Google Cloud, Linux