NELS MARTIN

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SUMMARY OF QUALIFICATIONS

- Proficient in **Python, Java, Lean**; working knowledge of **C, SQL, Bash**.
- Strong **software engineering** foundation from coursework in **data structures, algorithms, databases,** and **machine learning.**
- Experience building end-to-end projects: from **formal methods and proofs (Lean)** to **ML models in PyTorch** and **prototype software systems**.
- Demonstrated **collaboration, leadership, and communication** through team projects, research contributions, and directing extracurricular organizations.

EDUCATION

University of Washington | Seattle, WA

B.S., Electrical and Computer Engineering (ECE)   *Expected June 2026*

- Data Structures and Algorithms, Intro to Database Systems, Digital Systems, Machine Learning for Signal Processing.

EE 443: Machine Learning for Signal Processing Applications (Grade: 3.8)   *Fall Quarter 2025*

- Projects in **PyTorch:**
  - Built **CNNs** for object detection and video tracking.
  - Implemented **diffusion model**s for image and video generation.

PROJECTS

Improv Name Game (iOS App) – *Swift, UI, Xcode*   *March 2025 - Present*

- Designed and developed a **SwiftUI-based iOS app** that helps improvisers practice and memorize their scene partners' character names.
- Built an **interactive flashcard interface** using `LazyVGrid`, custom `ViewBuilder` sheets, and `rotation3DEffect` animations for card flipping.
- Implemented state management with `@State` and `@Binding` to dynamically track user selections and scene progress.
- Integrated random name generation, multi-view navigation, and adaptive UI for varied device sizes.
- Emphasized UX design: smooth transitions, intuitive flow, and contextual help overlay for first-time users.

RELEVANT EXPERIENCE

Undergraduate Researcher – Lean Research Group | UW   *March 2025 - Present*

- Authored annotated proofs for use in future UW course material. Collaborated with faculty to integrate work into a published online book.
- Developed an automated DFS-based theorem proving system using Python and Lean. Currently researching RL for automatic theorem proving.

Software/Systems Intern – nLIGHT | Camas, WA   *July 2023 - Sep 2023*

- Programmed and calibrated prototype LiDAR cameras in **Python, LabVIEW, and Linux**.
- Delivered four functional prototypes used in investor presentations, directly supporting product strategy.
- Increased department efficiency by improving the camera construction documentation.

Electrical Engineering Intern – Korry Electronics Co | Everett, WA   *June 2024 - September 2024*

- Resolved 100+ engineering problem reports by building test circuits and debugging designs.
- Utilized Simetrix, PADs, and Xpedition, and communicated with many departments (engineering, manufacturing, purchasing, etc.) to gather information to close out the problem reports.
- Partnered with cross-functional teams to improve internal documentation.