NOLAN TUTTLE

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SOFTWARE ENGINEERING SUMMARY

Software engineering student with hands-on experience in full-stack web development, Linux systems, and networked application deployment. Builds and self-hosts production web applications using React, Next.js, TypeScript, and Node.js, with a strong foundation in systems-level thinking from embedded and real-time software work. Effective in collaborative engineering teams and independent project ownership.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Java, Python, C/C++, SQL, Bash, HTML/CSS, VHDL/Verilog
Platforms: React, Next.js, Tailwind CSS, Node.js, Git, Github Actions
Concepts & Tools: Linux, REST APIs, CI/CD, Agile/SDLC, Server Deployment, Cloudflare, Computer Vision

EDUCATION/COURSEWORK

Grand Canyon University, Phoenix, AZ - *B.S. Software Engineering*   *April 2026*

- Embedded Systems
- Digital Logic and Design
- Embedded Systems II
- Operating Systems
- Algorithms and Data Structures
- Computer Architecture

PROFESSIONAL EXPERIENCE

Summer Externship – Akamai Technologies   May 2025 – August 2025

- Developed proof-of-concept for automatic multicast tunneling between Linux machines using AMT, smcroute, and iperf; provisioned and managed test environments using Linode VMs.
- Wrote Bash scripts to configure tunnel endpoints and analyzed network performance characteristics over private VLAN and public internet.

Research Intern – Canyon Artificial Intelligence Research   September 2025 – Present

Grand Canyon University, Phoenix AZ   *Phoenix, AZ*

- Authored IEEE-style research paper defining the full localization architecture for the AIM robot (vision-only autonomous navigation, no LiDAR/GPS); paper directly drove the team's Research Symposium 2026 poster presentation.
- Designed hybrid localization strategy combining stereo visual odometry at 30Hz with ORB feature-based landmark recognition at 5Hz and PnP drift correction, targeting 0.2–0.5% positional error between waypoints on a Raspberry Pi 5.
- Implemented Raspberry Pi 5-based embedded controller with dual cameras for real-time stereovision; contributed to depth-based classification pipeline achieving a 72% CPU usage reduction.

PROJECTS

nolantuttle.com - Personal Portfolio Website (https://github.com/nolantuttle/portfolio-site)   August 2025 - Present

- Built and self-host a full-stack portfolio site using Next.js 14 (App Router), React, TypeScript, and Tailwind CSS v4, deployed on a Linode VM and secured via Cloudflare Tunnel.
- Features project showcase, skills page, resume download, and a contact form that routes submissions directly to email; 53+ commits with iterative improvements over the project lifetime.

PhytoPi – IoT Plant Monitoring System   August 2025 – Present

- Owned full SDLC documentation for a 2-person capstone IoT project, including project charter, SRS, requirements gathered via user interviews, and technical specs; managed task tracking in Jira and GitHub Projects with all hardware procurement and expense reporting.
- Sole hardware owner: wired sensors, grow lights, and water pump to Raspberry Pi via MOSFET driver modules; 3D-printed custom enclosure; wrote embedded C for sensor interfacing, actuator control, and local SQLite database layer.