

Jesse Neff

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Computer Science Student specializing in Systems Programming

Education

Western Governors University
B.S. in Software Engineering

Online
Expected Aug 2027

Palomar College
A.S. in Computer Science

San Marcos, CA
July 2026

- **GPA: 4.0 (Core Coursework)**

Technical Skills

Languages: C++, C#, Python, Java, JavaScript, TypeScript, SQL, ARM Assembly

Tools & Frameworks: Git, Node.js, React, Next.js, Tailwind CSS, PostgreSQL, Supabase, Vercel, Jest, Playwright, Vitest

Core Aptitudes: Object-Oriented Programming (OOP), Algorithms & Data Structures, REST APIs, AI/ML, Cloud Architecture, Linux, Web Development, Robotics

Relevant Coursework

Data Structures (A) • **C++ & Object-Oriented Programming (A)** • **Machine Org. & Assembly (A)** • **Intro to AI (A)**

Projects

yet-another-image-converter

2026

JavaScript, Chrome Extensions (MV3), Canvas API, Playwright, Vitest

- Chrome Extension (Manifest V3) adding a right-click conversion flow for six image formats (JPEG, PNG, WebP, AVIF, BMP, ICO).
- Offscreen Canvas document handles conversions in isolation, keeping the service worker free and the extension UI responsive.
- Playwright end-to-end suite validates the full extension flow in a real browser; Vitest unit tests cover core conversion logic.

slot_machine_api

2025

TypeScript, REST API, Vercel Functions, Supabase, PostgreSQL, Jest

- TypeScript REST API on Vercel Serverless Functions backed by Supabase PostgreSQL; generated type-safe schema bindings prevent database contract errors at compile time.
- Jest test suite covers win conditions, edge-case payouts, and session boundaries; offline adapter supports CI without cloud infrastructure.

arm-assembly-robot-follower

2024

ARM Assembly, C, Raspberry Pi, Linux, wiringPi, PCA9685

- Leader-follower robot system written almost entirely in ARM assembly on Raspberry Pi; C used only as a thin hardware shim.
- Custom ultrasonic distance-sensing protocol using microsecond-precision timing loops; motor speed controlled over I²C via a hardware PWM driver.
- Derived a sensor-differential steering algorithm in pure integer arithmetic — no floating-point unit or real-time OS required; bare-metal embedded deployment.

portfolio-app

2026

Next.js, TypeScript, React, Node.js, WebGL/GLSL, Tailwind CSS, Framer Motion

- Full-stack portfolio with Next.js App Router and React; custom WebGL/GLSL fragment shader renders a dynamic animated background.
- Responsive layout with Framer Motion page transitions, deep-linked project modals using Next.js parallel routes, and system-aware dark/light theming.
- Hosts a live slot machine demo consuming the slot_machine_api backend via Next.js Server Actions.

Work Experience

Harrah's Resort & Casino

Valley Center, CA

Table Games Dealer

2019 – Present

- Managed complex procedures and high-stakes financial transactions with 100% accuracy.
- Maintained strict adherence to procedural documentation and game security protocols.
- Communicated complex game rules and compliance requirements clearly to customers with widely varying levels of prior familiarity.

Harrah's Resort & Casino – Rita's Cantina

Funner, CA

Server

2018 – 2019

- Achieved top 3 earner status in the restaurant by delivering exceptional customer service and maximizing sales.
- Operated Agilysys POS system efficiently to process orders and manage payments.

Protection One

West Palm Beach, FL

Commercial Installation Technician I

2015 – 2016

- Programmed, installed, and provisioned enterprise-level TCP/IP networking, routing, and security architecture for high-value commercial clients.
- Utilized AC/DC circuit expertise to troubleshoot complex hardware integration issues.

The MacKnight Food Group

North Miami Beach, FL

Administrative Assistant

2013 – 2015

- Built SQL-based CRM and inventory reports using MS Access, Excel, and MS SQL Server, improving data accuracy and operational visibility.
- Collaborated directly with executive and sales teams to streamline operations.