Marcello Novak

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EDUCATION:

Embry-Riddle Aeronautical University, Prescott AZ   May 2026
BS Computer Engineering, Mathematics Minor   **GPA: 3.6/4.0**

WORK EXPERIENCE:

Honeywell Aerospace   Phoenix, AZ
ANTHEM Software Engineering Intern   May – August 2025

- Designed and implemented a high-performance UI tool for testing aircraft communication systems, directly interfacing with embedded hardware and replacing inefficient serial-based workflows.
- Upgraded communications to UDP, significantly improving data throughput and responsiveness.
- Built real-time command and response flow between networked software and embedded systems.
- Contributed to multi-threaded architecture for data handling, command routing, and hardware interfaces.
- Improved testing efficiency, reducing bench time for engineers during simulation and validation.
- Collaborated with engineers to ensure seamless lab integration, deployment, and testing.
- Delivered tools that significantly enhanced usability and productivity for engineering teams.

J. P. Morgan Chase   Seattle, WA
Confidential Computing Intern   July 2024

- Engineered a test network for Confidential Computing MTLS, utilizing certifier framework attestation.
- Deployed docker containers to contain web servers for testing handshake connections.
- Researched Confidential Computing technology and applications, experimenting with potential use cases.

Capula Investment Management LLC   London, GB
Financial Software Engineering Intern   May – July 2023, 2024

- Developed and optimized risk analysis tools for bonds trading teams, companywide.
- Adapted an in-house API data to a user-friendly, streamlined format for smooth decision making.
- Implemented Python solutions and data science libraries with a focus on clean, optimized, and vectorized code to ensure efficiency and maintainability.
- Achieved substantial improvements in trading efficiency and risk assessment accuracy.
- Configured and trained a custom GPT-4 AI model for Bloomberg chat analysis and summarizing.

Embry-Riddle Undergraduate Research Institute   Prescott, AZ
EAGER Data Research Assistant   March – July 2022

- Managed a student team to develop data conversion tools for 3 years of meteorological data into CSV time-series format, optimized for training a machine learning prediction model.
- Engineered a custom data processing pipeline, applying vectorization, iterators, and parallel processing to further increase processing efficiency to meet time deadlines.
- Contributed to a published research paper focused on damage control predictions for monsoon season.

PROJECT EXPERIENCE:

ERAU Microprocessor Lab – Used an IAR IDE to program a Tiva TM4C123G microprocessor unit, working with integrated circuit design and C programming. Configured peripherals using polling and interrupts, optimized logic and interrupt vector tables. Worked with serial communication to a terminal and ADC.

NHS CCNA/CCNP Labs – Learned networking concepts and applied them in a lab environment. Gained experience in real-world scenarios, applied learned skills to home lab projects. Volunteered towards helping disadvantaged communities by troubleshooting and repairing electronics for their usage.

SKILLS:

Software: C, C++, Python, C, MATLAB, SQL, VHDL, ORCAD, CSS, HTML
Applications: Linux, VSC, Git, Adobe, Office, WebStorm, PyCharm
Activities: EagleSAT, Vex Robotics, IEEE Member, Makerspace Monitor

AWARDS:

Dean's Scholarship   2022 – 2024

PROJECTS:

- Fabricated dual flamethrowers, controlled by Arduinos utilizing C++, soldering circuit design, and 3D printing.
- Configured a home lab ESXI hypervisor, hosting VMs, a NAS, domain controllers, and selfhosting discord bots.
- Created a personal portfolio website, for further information regarding past work experience.
- Modeled and constructed a medieval style trebuchet, capable of launching projectiles over 50 meters.