Nicolas A. Zerbinopoulos - naz1008@usnh.edu - https://www.nicbudd.com

Computer Engineering soon-to-be graduate seeking new position. Cross-disciplinary problem solver with insatiable passion for self-motivated learning. Specialty in computer science, meteorology, aviation, Linux

WORK EXPERIENCE

UNH InterOperability Lab (UNH-IOL) Senior QA Engineer (Single Pair Ethernet / EmBase) April 2023 – Present

- Expanded test plan scope and continued to perform conformance testing on newly introduced standards.
  - Drafted and reviewed new edition of OPEN Alliance 100BASE-T1 PHY Control Test Plan.
- Architected framework and tool for expert analysis of oscilloscope and logic analyzer capture data in Rust.
  - Pioneered usage of Rust within team, automating conformance testing.
  - Designed web GUI for internal use.
- Drafted white paper for research of 100BASE-T1 encoding, detailing source code and results, making suggestions to OPEN Alliance for PHY Control Test Plan.
  - Investigated statistics of IEEE 802.3 Clause 96 100BASE-T1 side-stream scrambler in Rust using bit manipulation to reduce scrambler space search time from 28 hours to 80 seconds.
- Provided feedback for development of custom FPGA solution for running conformance tests.
- Trained next generation of conformance testers, compiling documentation and standardizing training materials to streamline onboarding process.

Test Technician June 2022 – April 2023

- Provided conformance testing for 100BASE-T1 Ethernet PHY devices in independent testing laboratory.
  - Communicated with multinational Fortune 500 semiconductor manufacturer clients to test devices and deliver detailed testing reports.
- Developed testing software using MATLAB to improve efficiency for much of testing.
  - Designed GUI for interacting with waveform decoder.

SKILLS

Programming: Rust, Python, Java, Scala, C, MATLAB, Git, BitBucket, HTML, CSS, JavaScript
Systems: Fedora, Ubuntu, Debian, Arch, Windows, Raspberry Pi, ESP32, Arduino, TI Launchpad, FPGAs
Software: Jira, Kanban, Agile, Confluence, Google Sheets, Google Apps Script, Xilinx Vivado
Hardware: Oscilloscope, Multimeter, Benchtop Power Supplies, Clock Generators, Soldering

EDUCATION

University of New Hampshire B.S. Computer Engineering (In Progress) August 2021 – May 2025

- Programmed and designed underwater cetacean tags with interdisciplinary team.
  - Collaborated with Mechanical and Ocean engineers to implement a safer method for
- Awarded HMS Scholarship and UNH-IOL Student Leadership Scholarship in 2023
- Earned honors in Fall 2021 and highest honors in Fall 2022
- Transferred from Western Michigan University after changing major from Aviation Flight Sciences
  - Achieved 3.75 GPA and Dean's List in Spring 2021 Electrical Engineering semester.

EXTRACURRICULAR ACTIVITIES

- Won first place prize in 2022 UNH Hackathon *Best Creative Impact* category with team
- Created server to collect, organize, analyze, and redistribute meteorological data
  - Designed Discord app, web page, addressable LED lamp, and command line application
- Designed web page graphically displaying weather data and home automation actions
- Maintained URL repository for meteorological data websites and resources for over a decade
- Invented and implemented esoteric programming language with interpreter written in Rust
- Built, optimized, and ran long-term Monte Carlo probability simulation to expose cheater in video-game competition
  - Versions written in C, Java, Rust, Python
- Reported hazards during severe weather outbreaks for National Weather Service as trained SKYWARN spotter, documenting several tornadoes.