Spencer Brown

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Summary

Systems software engineer with deep interest in safety-critical systems, and programming language design.

Skilled at quantifying diverse problems and finding solutions; experienced at developing in a team-environment.

Work Experience

Student Assistant, 8/2018 to Present | Georgia Tech Research Institute – Atlanta GA

Maintenance and replacement of legacy software, including embedded, safety-critical systems for avionics.

Assisted in development of firmware and test infrastructure for the Auto Pilot Servo (APS) for the C-5.

Participated in obsolescence update of the Personal Computer Interface Unit (PCIU) for the C-5, including changes to legacy codebases, applying custom configurations to the Windows operating system, and identifying and revising relevant documentation.

Research Scientist I, 7/2021 to Present | Georgia Tech Research Institute – Atlanta GA
Designing and developing safety-critical embedded software in freestanding C/C++ environment for C-5 APS. Developing and maintaining hardware test automation system utilizing National Instruments PXI.

Education

BSc Computer Science, Minor in Mathematics | Kennesaw State University | Spring 2021 | 3.8 GPA

Projects

Type-checker for the typed lambda calculus.

Computer Algebra System – term rewriting approach to solve algebra problems with human-readable steps.

ELF (Executable Linkable Format) parsing utility for use in a UEFI Bootloader.

Vibration-activated (piezo-electric) light control system using Arduino/AVR microcontroller.

Strengths

- Languages: C, C++, Haskell, Python, Java, C#, some experience with Rust, Ada, Prolog, F#, OCaml, Coq
- Software
    - **Verification:** TLA+, Alloy, SysML, NI DAQmx
    - **Build:** CMake, Autotools, Meson
    - **Environment:** Linux, Windows, TI ARM Toolchain
    - **Automation:** Docker, Jenkins, Ansible
    - **VCS:** Git, Mercurial, SVN