

Daniel Francis

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Education

Northwestern University, Evanston, IL

Bachelor of Science in Electrical Engineering

June 2023(anticipated)

Minor: Computer Science

GPA: 3.4/4

Relevant Coursework

Microprocessor System Design, Introduction to Feedback Systems, Communications Systems, Fundamentals of Computer System Software, Introduction to Communications Networks, Introduction to Artificial Intelligence

Skills

Programming Languages: C, Python, Javascript, HTML/CSS, ARM 32 assembly, MATLAB

Tools/Platforms: Git, Cmake, Simulink, Cadence, LTspice, GNU Radio

Lab Gear Proficiency: Oscilloscope, Function Generator, Soldering Iron

Operating Systems: Microsoft Windows OS, Linux Ubuntu

Spoken Languages: Spanish(fluent)

Engineering Projects

Micro:Hero

- Designed and constructed ARM Cortex M4F -based embedded Guitar Hero console that utilizes the SAADC, I2C, USB, GPIOTE, Timer, and Pulse Width Modulation microcontroller peripherals.

UDP Pinger Server/Client

- Implemented a Ping client to quantify the packet loss and round-trip time of an existing UDP Ping server

Aeropendulum Control System

- Designed PID and Lead/Lag compensators in MATLAB/Simulink to optimize transient and steady state response of an aeropendulum feedback system

Software Radio

- Constructed an AM transmitter and receiver using the GNU software radio to transmit low frequency audio tones
- Programmed the GNU software Radio Companion to transmit and receive single and dual tones through Universal Software Radio Peripherals using Single Side Band Modulation

Leadership/Activities

Team Captain of Intramural Soccer Team

- Led practices, effectively communicated strategies in and out of games

Senior Member of Mariachi Northwestern