


MARSHALL BRUNER

Denver, CO

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OBJECTIVE

I am pursuing a transition to a software-centered role. My experience in this area ranges from writing firmware for electronics used in flight to configuring web servers for radar data visualization and analysis. I would like to use this experience as a baseline for contributing to a team and developing my skills further.

EXPERIENCE

Ball Aerospace

RF Engineer

Jun. 2021 — Present

Broomfield, CO

- Used Python knowledge to create useful plotting and RF analysis tools
- Simulated, designed, and tested an RF Front-End PWB at extreme temperatures
- Debugged complex, mission-critical RF boards under strict time constraints
- Built an embedded webpage used to interact with a phased array antenna
- High sensitivity testing (noise, high power, etc.) of electronics

Colorado State University

Graduate Research Assistant — Thesis

Jan. 2021 — May 2022

Fort Collins, CO

- Design, schematic, and layout of a modular, X-band, FMCW drone radar
- Signal processing / data visualization for Analog Device's FMCW Phaser Board
- Presented the work at the IEEE International Phased Array Symposium
- Phaser board work was presented by ADI at IMS 2022 and IEEE-APS 2022
- Built a server to host and display real-time and historical radar data using Post-GreSQL, Flask, Python

CHILL Radar Lab

Lab Assistant

May 2020 — May 2021

Greeley, CO

- Built a real-time radar display to easily display and animate radar data
- Performed characterizations and measurements of radar equipment

EDUCATION

Colorado State University

M.S. Electrical Engineering — GPA: 3.9

Jan. 2021 — May 2022

Fort Collins, CO

Thesis - Design, Deployment, and Cost Considerations for DARMA; A Low-Cost and Lightweight FMCW Radar

Colorado State University

B.S. Electrical Engineering — GPA: 3.47

Aug. 2017 — May 2021

Fort Collins, CO

PROJECTS

5G Electronics Senior Design Project

Jun. 2020 — May 2021

- Simulated, assembled, and measured a full 5G receiver system
- Created teaching documentation for a 5G transmitter and receiver for FR1 and FR2 frequency bands
- Experience using FieldFox, EMPro, ADS, SystemVue

Fuzzy Logic Clutter Filter

Nov. 2020 — Dec. 2020

- Applied the Fuzzy Logic machine learning technique to radar data to filter clutter

Environment-Mapping Car

Nov. 2020 — Dec. 2020

- Built and programmed a battery-powered car with attached ultrasonic sensor for mobile mapping of the surrounding environment

SKILLS & ABILITIES

Languages: Python, C, Bash, SQL, Matlab, JavaScript, HTML, CSS

Technologies / Tools: Git, L^AT_EX, Linux, Docker, PostgreSQL/TimescaleDB, Flask, Celery (Distributed Tasks)

Communication: Excellent Technical Communication and Presentation Skills, Experience Presenting PDR/CDRs, Technical Paper/Presentation Formatting, Concise Code Documentation