Marshall Bruner

Denver, CO

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EDUCATION

Colorado State University **Jan. 2021 — May 2022**
*M.S. Electrical Engineering — **GPA: 3.9*** *Fort Collins, CO*
Thesis - Design, Deployment, and Cost Considerations for DARMA; A Low-Cost and Lightweight FMCW Radar

Colorado State University **Aug. 2017 — May 2021**
*B.S. Electrical Engineering — **GPA: 3.47*** *Fort Collins, CO*

EXPERIENCE

Ball Aerospace **Jun. 2021 — Present**
RF Engineer, Intern, Technical Aide *Broomfield, CO*

- Simulated, designed, and tested an RF Front-End PWB at extreme temperatures
- Built an embedded webpage used to interact with a phased array antenna
- Helped coworkers finish schematic and layout for their PWB's
- High-power testing of real antenna loads

Colorado State University **Jan. 2021 — May 2022**
Graduate Research Assistant *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
- Work for the Phaser Board was presented at IMS 2022 and IEEE-APS 2022

CHILL Radar Lab **May 2020 — May 2021**
Lab Assistant *Greeley, CO*

- Built a real-time radar display to easily display and animate radar data
- Performed characterizations and measurements of radar equipment
- Wrote firmware for an ARM-Cortex PSOC

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 as a clutter filter

Environment-Mapping Car **Nov. 2020 — Dec. 2020**

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

SKILLS & ABILITIES

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

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

Technologies / Tools: Git, LaTeX, Linux, Docker, PostGreSQL/TimescaleDB, Flask, Benchtop measurement equipment

Design / Simulation Tools: HFSS, KiCad, QucsStudio, LTSpice, Cadence Virtuoso