

MARSHALL BRUNER

Denver, CO

☎ +1 970-568-6162 ✉ brunerm99@gmail.com [in](https://www.linkedin.com/in/marshall-bruner) [marshall-bruner](https://www.linkedin.com/in/marshall-bruner) [github](https://github.com/brunerm99) [brunerm99](https://github.com/brunerm99)

EDUCATION

Colorado State University

M.S. Electrical Engineering - GPA: 3.9

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

Jan. 2021 - May 2022

Fort Collins, CO

Colorado State University

B.S. Electrical Engineering - GPA: 3.47

Aug. 2017 - May 2021

Fort Collins, CO

EXPERIENCE

Ball Aerospace

RF Intern, Technical Aide

June 2021 - Present

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

Graduate Research Assistant

Jan 2021 - May 2022

Fort Collins, CO

- Design, schematic, and layout of a modular, drone-mountable, X-band FMCW radar
- Signal processing and data visualization for Analog Device's FMCW Phaser Board
- Work for the Phaser Board was presented at IMS 2022 and IEEE-APS 2022 workshops

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
- 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 machine learning technique, fuzzy logic, to radar data as a clutter filter

Environment-Mapping Car

Nov 2020 - Dec 2020

- Built and programmed DC 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, Matlab, SQL, Bash, JavaScript

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

Technologies / Tools: Git, \LaTeX , Linux, Benchtop measurement equipment