MARSHALL BRUNER

Denver, CO

J+1 970-568-6162 \square brunerm99@gmail.com $\boxed{\mathbf{m}}$ marshall-bruner \bigcirc brunerm99

EXPERIENCE

Jun 2021 — Jul 2023 Ball Aerospace Broomfield, CO

RF Engineer

- Designed and debugged multiple complex, mission-critical RF boards under strict time constraints
- Simulated, designed, and tested an RF Front-End PWB at extreme temperatures
- Schematic and layout of RF T/R systems (RF, digital, power), antenna range test equipment, component testing coupons, etc.
- Used Python knowledge to create useful plotting and RF analysis tools
- Built an embedded webpage used to control/monitor phased array electronics
- High sensitivity testing (noise, high power, etc.) of electonics

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

CHILL Radar Lab

Lab Assistant

May 2020 — May 2021 Greeley, CO

- Built a server to host and display real-time and historical radar data using Post-GreSQL, Flask, Python
- Performed characterizations and measurements of radar equipment

EDUCATION

Colorado State University Jan 2021 — May 2022

M.S. Electrical Engineering — GPA: 3.9

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

Fort Collins, CO

PROJECTS

FMCW Radar Bootcamp

Mar 2023

• Helped develop a talk on FMCW radar for the 2022 AESS Radar Bootcamp

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 as a radar clutter filter

SKILLS & ABILITIES

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

Design / Simulation Tools: KiCad, AWR Microwave Office, HFSS, QuesStudio, LTSpice, Cadence Virtuoso Technologies / Tools: Git, LATEX, 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