

# Chase MacDonnell

## Software Engineer

c.macdonnell@ufl.edu  
+1 (813)-340-1711  
Tampa, FL

## Education

Bachelor of Science  
Computer Science  
University of Florida  
2021 - 2025  
Gainesville, FL

## Skills

### Programming Languages

Rust, Go, C/C++, C, Java, Kotlin,  
JavaScript, Typescript, Elixir/  
Erlang, Python, Nim,  
Julia, LabVIEW, Lua

### Databases

PostgreSQL, MariaDB/MySQL,  
MongoDB, Apache Cassandra/  
Scylla, AWS DynamoDB,  
Couchbase, SQLite

### Development Tools

Linux, AMQP (RabbitMQ), REST,  
GraphQL, gRPC, Google Proto-  
buf, Keras/Tensorflow, OpenGL,  
ReactJS, VueJS

## Work Experience

R&D Software Engineering Co-Op

CAE USA

May 2022 - August 2022

- Worked on the modernization of Sentinel and integration of the RISE and ALE flight grading platforms.
- Swapped the Sentinel Telemetry Ingress from a proprietary cloud solution to a custom solution based on NATS, Kafka, and Clickhouse.
- Modernized an aging ASP.NET based service running on Azure App Service to a ASP.NET core based service running in Kubernetes.
- Upgraded the Angular 7 front-end of Sentinel to Angular 13.

## Community & Leadership

Electronics Director

Liquid Propulsion Development Team

December 2021 - Present

- Worked on designing and building a new electronics system to control a liquid rocket engine.
- Integrated the system with industrial sensors and solenoids.
- Mentored members on designing distributed electronic systems and integrating them with software.
- Collaborated with other design and manufacturing sub-teams to ensure the safe operation of experimental rocket engines.

Engineering Mentor & Volunteer

AMRoC Fab Lab

October 2019 - Present

- Mentored the Edgar Allan Ohms robotics team in programming and electronics after graduating in April, 2021.

## Projects

Rocket Engine Test Stand Electronics

November 2021 - Present

- Designed a brand new electronics system for a Bi-Propellant Liquid Rocket engine.
- Uses a Ethernet based bus to communicate from a master computer to multiple programmable logic controllers, which then control solenoids and gather sensor data.