Michael Bonnet | Resumé

Irvine, California, United States | michaelbonnet.github.io
maabonnet@gmail.com 817-901-2250 MichaelBonnet

EDUCATION

University of Alabama **Tuscaloosa, AL**
MS in Aerospace Engineering and Mechanics *May 2025*

University of Texas at Arlington **Arlington, TX**
BS in Computer Science, Certificate in Unmanned Vehicle Systems *May 2022*

SKILLS & TECHNOLOGIES

- **Programming Languages:** C, C++, Python, ARM Assembly, MATLAB, Bash
- **Software & Processes:** MATLAB/Simulink, Robot Operating System (ROS), Buildroot, Machine Learning, Tensorflow, Computer Vision, OpenCV, Git, Command Line, Vim, Linux/Unix, macOS, Windows, Agile Development, JIRA, Atlassian products, Internet of Things (IOT), CAD (SolidWorks, AutoCAD)
- **Hardware:** Robotics, Commercial & Self-Built Drones, Autonomous Vehicles, Flight Controllers (Pixhawk), Raspberry Pi, Microcontrollers, Xilinx products (PicoZed SOM), Software Defined Radio (inc. RTL-SDR LimeSDR)

EXPERIENCE

Terran Orbital **Irvine, CA**
Flight Software Engineer *May 2022 - Present*

- Configured custom Linux-based operating systems for NASA Pathfinder Technology Demonstrator satellites in low-earth orbit
- Designed and tested performant C++ embedded software for orbital satellite solar panel arrays
- Tested, evaluated, and debugged flight software and hardware on projects totaling dozens of spacecraft
- Supported launches of company and customer payloads to low-earth orbit (LEO) and translunar trajectories with flight software troubleshooting both in mission control and on call

Lockheed Martin **Fort Worth, TX; Grand Prairie, TX**
Software Engineer Intern *May 2021 - May 2022*

- Designed and implemented manufacturing software controlling 6 DOF robotic arms with structured light scanners to aid in metrology and manufacturing excellence for PAC-3 Patriot missiles and F-35 programs
- Researched DevOps tools like Ansible and Jenkins CI for potential use by EO and other teams; research report lead to changes in development workflow and 10+ hours of labor saved per month
- Developed practices and documentation for properly using Git version control within an Agile (Scrum) development cycle, earning opportunity to continue working past the summer internship
- Developed data integration software using Java and Java-based tools

PROJECTS

Network Exploitation Drone *Drones, RF Engineering, Penetration Testing, Networks*

- Senior capstone project to build a drone that carries a Raspberry Pi sensor and networking payload that locates and identifies open Wireless Access Points before scanning the network and exploiting any vulnerabilities.
- Served as Team Leader on a six-student team that earned sponsorship from Elbit Systems of America; finishing 85% under budget and 6 months ahead of schedule

Autonomous LEGO EV3 Robots *Robotics, Python, Intelligent Systems*

- Robot 1, **"Solomon",** solved a painter's tape-demarcated maze with known configuration, starting point, and goal point using A* search with a Manhattan distance heuristic
- Robot 2, **"Rehoboam",** using color and ultrasonic sensors, solved a similar maze with unknown initial position, with the goal of finding an object in the maze and pushing it out of position
- Robot(s) 3, **"Babylon I, II, III"**, implemented the four behaviors of Braitenberg Vehicles, changing their velocity and heading based on where they perceive signals to be coming from via ultrasonic and IR sensors.