

# Lee Mracek

[github.com/m3rcuriel](https://github.com/m3rcuriel)

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## OBJECTIVE

To build on my production environment software experience through larger scale projects or further development on embedded systems through a 2017 summer internship.

## EDUCATION

### GEORGIA INST OF TECH

BS COMPUTER SCIENCE

BS ELECTRICAL ENGINEERING

Expected 2020 | Atlanta, GA

### MONTA VISTA HIGH SCHOOL DE ANZA COLLEGE

August 2012 -- June 2016

Final two years of high school were at college.

## LINKS

Facebook:// [leemracek](#)

Github:// [m3rcuriel](#)

LinkedIn:// [leemracek](#)

## COURSEWORK

### UNDERGRADUATE

Adv. Programming in C++

Linear Algebra

Differential Equations

Multivariable Calculus

## SKILLS

### PROGRAMMING

Proficient:

Java • Shell • Python • C++

C • Matlab • Simulink •  $\LaTeX$

Familiar:

Real-time Linux • Android

### TOOLS & INFRASTRUCTURE

AWS • Docker • Vagrant

ControlDesk • dSPACE

gdb • Bazel • CMake • Gradle • ant

Jenkins • Travis CI • Gerrit

## EXPERIENCE

### VALKYRIE ROBOTICS | HEAD MENTOR & SOFTWARE ENGINEER

Mar 2016 - Present | Cupertino, CA

- Founded and am assisting a robotics team consisting of high schoolers in the community to enrich their STEM educations.
- Both founding head mentor as well as in charge of all technical work.
- Real-time programming for embedded systems and abstract Python libraries (see 'Mass' in Projects section).
- Manage back-end system including AWS, Google Apps, Confluence, Jenkins, and Gerrit.

### GEORGIA TECH ECOCAR 3 | CONTROLS & MODELING

Aug 2016 - Present | Atlanta, GA

- Wrote HIL simulation code for dSPACE using Simulink.
- Used AutomationDesk to write Python unit-test cases for controls.

### DIAMOND SYSTEMS | SOFTWARE ENGINEERING INTERN

June 2015 - Sep 2015 | Mountain View, CA

- Managed full software stack as sole software engineer.
- Produced and tested Linux kernel modules for custom hardware.
- Worked with the CEO of Rocket EMS to evaluate hardware and software system and eliminated software as root cause after working with them for several weeks designing newest revision of a PC board.

### MONTA VISTA HIGH SCHOOL

### FIRST ROBOTICS TEAM | SOFTWARE ENGINEERING

Aug 2012 - Mar 2016 | Cupertino, CA

- Led and trained groups of freshmen to design and construct our robot code.
- Implemented control theory, stochastic modeling and state-space representation which were used for machine learning and controls code on the robot.
- Developed overarching framework for writing code for math utilities, hardware abstractions and timing methods.

## PROJECTS

### MASS | PRIVATE REPOSITORY

With Valkyrie Robotics

Real-time C++ framework for FIRST Robotics. Led and designed code structure and implementation. Achieves 5 ms control loops on real-time hardware with 10  $\mu$ s standard deviation. Allows effective PID and full state control, Kalman filtering, DMA, and motion profiling.

### JARVIS SCHEDULER | [GITHUB.COM/JARVIS/JARVIS-SCHEDULER](https://github.com/Jarvis/Jarvis-Scheduler)

May 2015 - June 2016

Built backend Python for a webapp to help De Anza College students schedule their classes.