# ARTHUR ZHANG

WWW.ARTHURKZHANG.COM

## EDUCATION

University of Michigan, Ann Arbor
Bachelors in Science and Engineering in Computer Engineering

GPA: 3.9/4.0
Expected Graduation: May 2022

## SKILLS AND COURSEWORK

Coursework: Algorithms and Data Structures, Embedded System Design, Computer Organization, Circuit Analysis & Design, Digital Logic Design

Computer Programming: C++, C, Python, Javascript, MATLAB, React.js, Vue.js, Tensorflow, Django, MongoDB, MySQL, Simics

Computer Aided Design: KiCAD, Altium PCB Designer, LTSpice, Autodesk Inventor

## CONTACT INFORMATION

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## WORK EXPERIENCE

### Software Engineering Intern
Northrop Grumman (May - August 2020)

- Built multithreaded TCP/IP socket to hande high speed satellite and ground station communications for command line app in C
- Programmed Softbench in C and Simics to simulate realtime avionics behavior for NASA's JPSS and Landsat9 satellites, improving flight software validation lifecycle by up to 6 months

### Software Engineering R & D Intern
Sandia National Laboratories (May - August 2019)

- Architected noSQL database and full stack web components for automating data analysis for radiological instruments
- Implemented front end state management using Redux to optimize page rendering

### Software Engineering Intern
Clinc (June - August 2018)

- Refactored REST APIs and integrated single page application to improve server response times and page loading by up to 50%
- Designed end-to-end automated testing infrastructure in Selenium to reduce bugs pushed to production by 40%

## EXTRACURRICULAR ACTIVITIES

### Michigan Aeronautical Science Association (MASA)
(August 2019 - Present)

- MASA is a student rocketry team that designs liquid fueled rockets
- Created custom PCB to actively balance fuel tank pressures using motor control algorithms, ADC and pressure sensing, and PID loop
- Assembled/tested PCBs with oscilloscope and electronics tools

### Miniature Tether Electrodynamics Lab (MiTEE)
(August 2019 - Present)

- MiTEE lab develops orbital satellites that use electrodynamic tethers to leverage atmospheric currents to extend service period
- Developed linear quadratic regulator controller in C to perform active stabilization using magnetorquers and reaction wheels

### Michigan Electric Motorcycle Racing Team (SPARK)
(August 2018 - September 2019)

- Engineered PCBs and embedded control loops in C for actively balancing battery cell packs during circuit races

## PROJECTS

### Dead Reckoning

- Built fault tolerant embedded system to perform attitude determination using sensor fusion with three IMUs and STM32 chips
- Improved system reliability with custom clock synchronization procedure and Byzantine generals inspired fault detection and resolution algorithm