

# Matthew Yu

Plano, TX; Austin, TX

☎ 972-210-1357 | ✉ matthewjkyu@gmail.com | 🏠 dimembermatt.github.io

📄 github.com/dimembermatt | 🔗 linkedin.com/in/dimembermatt/

## Education

### The University of Texas at Austin

May 2021

B.S. IN ELECTRICAL AND COMPUTER ENGINEERING

- Cumulative GPA: 3.39
- Coursework: Intro to Embedded Systems, Software Design and Implementation I and II, Circuit Theory, Dev. of a Solar Powered Vehicle, Digital Logic Design

## Work Experience

### Cisco

Richardson, TX  
June 2019 - Present

SOFTWARE ENGINEERING INTERN

- Responsible for deploying the testing environment pipeline for integration testing.
- Create and manage automated and manual unit tests for CX workflows and user stories.
- Refactor back-end apis to simplify application authentication.

## Projects

### Image Generation - C++

January 2019 - Present

- Built an application using OpenFrameworks that creates art based on Markov Chains generated from image sets.
- Developed a median cut algorithm implementation for color quantization.
- Optimized program structures and processes for efficiency improvements of over 90% in runtime.

### Generative Art - C++, Javascript, HTML, CSS [dimembermatt.github.io/Generative\\_Art](https://dimembermatt.github.io/Generative_Art)

Summer 2018 - Present

- Created a series of programs that create generative art using P5JS and OpenFrameworks.
- Document thought processes and results as part of an effort to better communicate code and algorithms to people.
- 1st place in the 2019 Images of Research competition with a piece based off of the Chirikov Standard Map (Chaos Theory).

### Intro to Embedded Systems Final Project - C, Python

May 2018 - Present

- Led the firmware system design and circuit implementation of an embedded system game controller using the TI TM4C microcontroller.
- Programmed a game implementing the battling features of Pokémon against a CPU.
- Learn PCB design to minimize the circuit implementation of the game controller.

## Extracurricular Activities

### Longhorn Racing - UT Solar Vehicle Team

Fall 2018 - Present

MEMBER, SOLAR ARRAY LEAD (2019)

- Lead the assembly of solar cells into modules for lamination and application onto BeVolt.
- Developed milling, laminating, and SMD soldering skills.
- Helped build the lamination and testing setup for solar cells and modules.
- Assembled battery temperature probes for the battery protection system.

### IEEE Robotics and Automation Society

Fall 2017 - Present

MEMBER, LEADER, HISTORIAN AND WEBMASTER (2019)

- Region V (Fall 2017 - Present)
  - Participated in the mechanical design and assembly for the 2017-2018 robot.
  - Led the DBSCAN and simulator groups for the computer vision stack of the 2018-2019 swarm robots.
  - Managed electromechanical assembly of the swarmbots, including PCB component soldering.
- Micromouse (Present)
  - Led the maze-solving algorithm development and integration with the Micromouse.
  - Created a standard interface between the hardware access layer and the algorithm.
  - Developed a simulator in C++ for algorithm testing.

### American Society of Mechanical Engineers

Fall 2017 - Present

MEMBER

- Rube Goldberg/Design Team (Fall 2017 - Present) - Designing multistep processes for STEM education and competition.
  - 6th Place in the Rube Goldberg National Competition (2018).
  - 3rd Place in the Purdue National Chain Reaction Competition (2019).
  - Helped design, construct, and setup a Rube Goldberg Machine for an advertising commercial by energy company Reliant.

## Skills

### Programming Languages

C/C++, Java, JavaScript, Python 3, Verilog, Arm Thumb2, LC3B

### Libraries and APIs

ROS, OpenFrameworks, P5JS, NodeJS, Angular 6

### Technical Skills

SMD Soldering, Milling, Lathing, Laser Cutting, 3D Printing

### Software

Microsoft Office, Google Suite, Xilinx Vivado, Craftware, SOLIDWORKS, Git, Github, Linux OS