Matthew **Yu**

2501 Cima Hill Dr., Plano, TX 75025

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

github.com/dimembermatt | linkedin.com/in/matthew-yu-126331144/

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, Circuit Theory, Dev. of a Solar Powered Vehicle, Digital Logic Design, Software Design and Implementation II

Work Experience

Cisco *Richardson, TX*

Software Engineering Intern *June 2019 - Present*

- Responsible for deploying the testing environment pipeline for integration testing.
- Create automated and manual unit tests for CX workflows and user stories.

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 *Summer 2018 - Present*

- Created a series of programs that create generative art based on rules or natural phenomenon 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.
- Designing a framework using Python and OpenCV to transcribe sheet music into a decodable file format that plays on MusicBox, a program that plays tunes from 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 for the testing of algorithms.

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