

# Matthew Yu

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Github: <https://github.com/dimembermatt>

Website: <https://dimembermatt.github.io>

## UNDERGRADUATE | MAY 2021 | UNIVERSITY OF TEXAS AT AUSTIN – COCKRELL SCHOOL OF ENGINEERING

- B.S. in Electrical and Computer Engineering
- Cumulative GPA: 3.22

## Related Coursework

EE302 (INTRO TO ELECTRICAL), EE306 (INTRO TO COMPUTING), EE319K (INTRO TO EMBEDDED), EE312 (SOFTWARE DESIGN AND IMPLEMENTATION I), EE411 (CIRCUIT THEORY), EE309S (DEV. OF A SOLAR POWERED VEHICLE), UGS303 (HOW THINGS WORK)

## Projects

### Generative Art – HTML, Javascript

Summer 2018

- Using the P5JS API, I created a series of programs that create generative art based on a set of rules or are emulative of natural phenomenon. These works and descriptions can be found at <https://dimembermatt.github.io/projects>.

### Audio Visualizer – HTML, CSS, Javascript

Summer 2018

- Co-programmer on an mp3 audio visualizer that uses the P5JS and WebAudio API. Worked on creating the initial design, as well as wrote the working prototype of the visualizer using a particle system. This visualizer can load songs from the local file system and display several variations of a visualization based off the music.

### EE319K Final Project – C, Python

May 2018

- Led the programming and wrote up the design and circuit implementation of the *TivaBoy*, an embedded system game controller using the TI Tiva microcontroller. Wrote a game implementing the battling feature of *Pokemon* against a rudimentary CPU.

### UGS303 Pet Feeder Project

May 2018

- Led the programming of the Arduino UNO microcontroller and the electronic component interfacing; CADded the initial iteration of the pet feeder design and provided input on the development of the design for customer needs and technical problem solving.

### Degree Planner and Audit Program – C

January 2018

- A program that allows the user to read and populate text files with official coursework and planned coursework as well as check the GPA and rate of progress to diploma (ECE only). Users can add, remove, and edit courses.

### Intro to Electrical Engineering Final Project

November 2017

- Led the fabrication of a robot car and its circuit design as well as helped debug the robot during testing in order to navigate a rudimentary obstacle course.

## Service and Extracurricular

### Institute of Electrical and Electronics Engineers

2017-2018

- Participation in Robotathon and IEEE RAS committee Region V and PacBot, engaging in design, CAD modeling, mechanical testing, and assembly of robots. Led the mechanical design for the Robotathon RASCar robot, “Picobot”.
- Region V - 10<sup>th</sup> place out of 30 during the IEEE 2018 conference
- PacBot competition hosted by the Harvard Undergraduate Robotics Club – 3<sup>rd</sup> place
- Robotathon - Undeclared Champions in Competition, 2<sup>nd</sup> Place in overall points.

### American Society of Mechanical Engineers

2017-2018

- Participating in ASME’s Rube Goldberg club, and helping design and create multistep processes for presentation at the Rube Goldberg 2018 competition and for local education initiatives to generate interest in STEM fields.
- Rube Goldberg National Competition – 6<sup>th</sup> place
- Helped design, construct, and setup a Rube Goldberg Machine for an advertising commercial by energy company Reliant

## Technologies/Proficiencies

- Programming Languages (in order of experience):
  - C, C++ (from Arduino)
  - Java
  - ARM Thumb2 assembly, LC-3 Assembly
  - Python3
  - Javascript (Frameworks and Libraries: WebAudio, P5JS)
  - HTML and CSS
  - XML
- Microsoft Word, Excel, PowerPoint, and Google Drive’s respective equivalents, Git
- Machine shop milling and lathing, laser cutting, 3D printing, SOLIDWORKS