

# Theo Gerst

Computer Science and Math @ MIT

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## Personal Projects

### Radish

[\[https://github.com/teo67/Radish\]](https://github.com/teo67/Radish)

FEBRUARY 2022 - OCTOBER 2022

Radish is a custom programming language designed for readability and simplicity. Dynamically typed, interpreted, and written in C#. The Radish [language extension](#) for VS Code is also open source.

### Discits

[\[https://github.com/teo67/DiscitsPublic\]](https://github.com/teo67/DiscitsPublic)

FALL 2020 - FEBRUARY 2022

Discits is a structurally sound implementation of Pokémon written in Node JS that functions entirely via a messaging service. [Here](#) is the link to the website, along with its [source code](#).

## Other Relevant Projects

LID programming language

[\[https://github.com/teo67/lidPublic\]](https://github.com/teo67/lidPublic)

OpenGL-based render engine

[\[https://github.com/teo67/MaybeRenderer\]](https://github.com/teo67/MaybeRenderer)

Game-solver in JavaScript

[\[https://github.com/teo67/SimpleAI\]](https://github.com/teo67/SimpleAI)

Custom data structures in C#

[\[https://github.com/teo67/CustomTypes\]](https://github.com/teo67/CustomTypes)

Customizable chess in Radish

[\[https://github.com/teo67/radish-chess\]](https://github.com/teo67/radish-chess)

Programmatic Sound Designer

[\[https://github.com/teo67/sound\\_designer\]](https://github.com/teo67/sound_designer)

## In Development:

Open-World RPG "Rain" in UE5

Chess Solver in C++ and frontend client

## Education

### Berkeley High School

FALL 2019 - SPRING 2023 (GPA: 4.0)

1980 Allston Way, Berkeley, CA, 94704

### Massachusetts Institute of Technology

FALL 2023 - SPRING 2027 (GPA: 5.0)

77 Massachusetts Ave, Cambridge, MA, 02139

## Experience

### Lawrence Berkeley Lab AMCR / Research Assistant

SUMMER 2024

Designed neuromorphic algorithm for the sieving step of the General Number Field Sieve in order to speed up factoring large numbers, simulated with numpy and Intel's Lava. In process of submitting paper to conferences.

### UC Berkeley Model Predictive Control Lab / Intern

SUMMER 2023

Developed code in C++ and python using ROS to simulate and control 6-DOF robot arms autonomously. Implemented translation and rotation procedures as well as force sensing in order to use the arm to draw image contours, and ran custom simulations to predict robot behavior.

### BHS Robotics Team / Controls Co-Lead

FALL 2019 - SPRING 2023

Wrote robot code for two FRC seasons as a controls lead.

## Experience @ MIT

### MIT Motorsports / Software Team

FALL 2023 - CURRENT

Focused in developing low-level firmware written in C/C++. Developed telemetry system to visualize car data in real time over serial, driver dashboard to receive and display data over CAN, and code for custom motor inverters for 4WD.

### MIT Arcturus / Autonomy Lead

FALL 2023 - SPRING 2023

Focused in robot control using ROS2 in python and C/C++. Developed [path generator algorithm](#), e-stop/heartbeat system, custom x-drive 6-axis PID controller.

## Summer Internships/Academics

### COSMOS - Computers in Bio and Robotics / Student

JULY 2022 - AUGUST 2022, University of California at Davis

### Stanford Pre-Collegiate Summer Institutes / Student

JULY 2021 - AUGUST 2021, Online due to COVID

### Rosetta Institute of Biomedical Research / Student

JUNE 2021 - JULY 2021, University of California at Berkeley