Theo Gerst

Computer Science @ MIT

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Website: teo67.github.io
Portfolio: github.com/teo67

Personal Projects

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]
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/lid]
OpenGL-based render engine
[https://github.com/teo67/MaybeRenderer]
Game-solver in JavaScript
[https://github.com/teo67/SimpleAI]
Custom data structures in C#
[https://github.com/teo67/CustomTypes]
Customizable chess in Radish
[https://github.com/teo67/radish-chess]
Eukaryotic cell simulation in JavaScript
[https://github.com/teo67/Cell]

In Development:
Bootstrapped Symbolic Programming Language, Realistic Physics Platformer Engine

Robotics Controls Performance

FIRST Robotics Autonomous Award
SACRAMENTO REGIONAL, 2022
Selected out of 43 teams for exceptional automated features and performance.

FIRST Robotics Innovation in Control Award
SACRAMENTO REGIONAL, 2023
Selected out of 46 teams for elegant controls systems and robot automation.

Experience

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. Implemented algorithms for position and angle automatic alignment, used ramsete controllers to generate smooth curves for driving autonomously.

Experience @ MIT

MIT Motorsports / Software Team
FALL 2023 - CURRENT
Focused in developing low-level firmware written in C/C++.

MIT Arcturus / Autonomy Team
FALL 2023 - CURRENT
Focused in robot control using ROS2 python and C/C++.

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

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: N/A)
77 Massachusetts Ave, Cambridge, MA, 02139