

Jason Gonzalez

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Education

Massachusetts Institute of Technology (2022-Present)

- Major: 18 Mathematics and 6-3 Computer Science
- Relevant Courses: 6.5660 Computer Security, 6.5840 Distributed Systems, 18.701 Algebra I, 18.901 Introduction to Topology

Experience

Cybersecurity CTF Problemwriting (2021-2024)

Primarily wrote binary exploitation challenges in C with Python pwntools test exploits. For PBjarCTF ([Github](#)) and LITCTF ([Github](#)) I taught proper contest organization and problem setup to teams involved and helped setup Google Cloud infrastructure. I also wrote for KQCTF ([Github](#)) and idekCTF ([Github](#)). All these CTFs had over 500 teams and over \$500 in prize money from sponsors.

USACO Tutoring (2022-2023)

Independently tutored many students through online meetings to reach the highest levels of the USACO programming contest. Many students achieved highest division of Platinum, one student qualified for the Finalist Camp.

Projects

Geoguess IRL Mobile App ([Github](#))

Inspired by the game Geoguessr, a Flutter mobile app where within a radius of your gps location you are given a random image provided by Google Maps API and have to attempt to physically walk as close to the location as possible. Use a Nodejs server to store account information and look up other's stats.

Autogen Geodash Desktop Game ([Github](#))

A C++ OpenGL simplified version of the 2d game Geometry Dash that autogenerates level maps. During gameplay all possible upcoming player positions are simulated efficiently by storing a list of reachable frontier positions to ensure the level is always beatable.

DNQ Attention RNN Translator ([Github](#))

Pytorch RNN model with attention for translating English to Spanish. Experimented with custom attention mechanism that queries relevant info by continually merging halves rather than comparing all terms at once.

Popup Quiz Chrome Extension ([Github](#))

A Chrome extension that generates popup quizzes at random intervals based on flashcards sourced by user-provided quizlet links. To scrape links in the browser and work around CORS, I opened links in an iframe and inserted a content-script that scrapes flashcards and sends to a background worker. Published on Chrome Webstore.

Awards

USACO Finalist 2021 - Top 26 rank of ~5000 in national HS algorithm contests, invited to training camp.

Codeforces Max Rating 2319 - Top 0.5% elo rating in international algorithm contests, account "SuperJ6".

Google Codejam Round 3 Qualifier 2022 - Top 1000 out of ~30000 in international algorithm contest.

PicoCTF 2022 13th Place - International cybersecurity CTF, ~7500 teams, competed on team "PeanutButterJar".

CSAW CTF Finals 2022 3rd Place - International cybersecurity CTF, ~850 teams in qualifier, competed on team "idek".

Skills

Programming Languages - C, C++, Python, Javascript, Java, Golang, x86 Assembly, HTML/CSS

Cybersecurity - Binary Exploitation, Cryptography, Web Exploitation

Frameworks/Tools - EJS, Nodejs, Nginx, Docker, Flutter, OpenGL, Pytorch, GDB, Ghidra, Solidworks