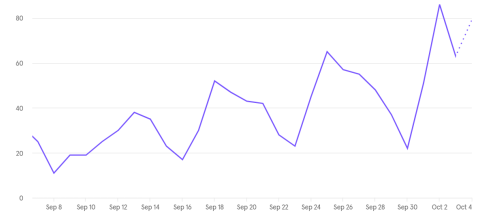# MICHAEL BARR

email: mbarr1@hwemail.com

Experience

Nooglia
(nooglia.com)

(2022-2023) Created a study tool with printable tests and an intelligent learn mode (now powered by an LLM) that a few thousand people have used. Our week over week DAU growth as of 10/4/2023 is about 25% ⭐

790 contributions in the last year

Tapout
(tapout.app, eliminate. hw.com)

(2022) Created a platform to play the game assassin that reached 3/4 of our student population in 5 days. Over 500 students have participated so far, over the course of two years. I built a mobile app that can scale to more schools called tapout.app, launching February 2023 (Typescript)
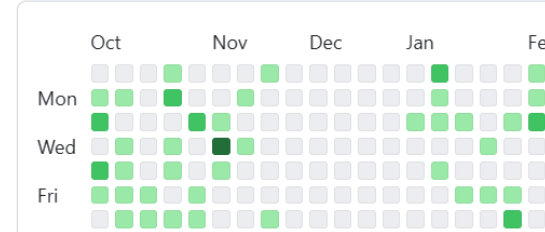
Camp Councilor
(team980.com)

I supervised a group of five girls, and taught them Lego Robotics and drag and drop programming. They got first place out of five teams in the final project, where they had to complete tasks on a First Lego League field.

Robotics

FRC Controls/Programming Lead (2022-2023) - I was the original programmer on FRC 1148 after we revived it at Harvard Westlake. We got the highest average scoring autonomous at our latest regional, and I now lead a team of eight coders. We use the same debting pure pursuit technique I created for VEX.
California State Champions (2022) - Winner of the 2021-2022 VEX Robotics California State Championships Tournament in LA, qualifying for 2022 VEX Worlds (C++)
Mentorship (2021-2022) - Taught two new programmers in each of two first year VEX teams basic control theory and C++ basics, both of whom went on to the World Championships with us. (C++)
EZ Template (2021) - A lead developer of an open source robot control framework which was used by three of the 15 top scoring skills teams at VEX Worlds 2021-2022
Debiting Pure Pursuit (2022) - Created a pure pursuit library designed to reduce the number of PD controllers present in EZ Template from over 5 to one. (C++)
Winner of Amaze Award at VEX World Championships (2022) - Winner of the highest judged award in the technology division for reliable and effective robot code (C++)
VEX Build Tool (2022) - Created a github action that 35 known teams use to build their code

HackHW Leader
(hw.com/hackhw)

(2023) We recruited chaperones from the school faculty, and Alumni judges for a two night overnight event

Latin Tools

Latinizer (2020) - Created a FOSS Chrome extension integrating the typing of macrons, a dictionary, and a compilation of charts for Latin students
words.michaelbarr.dev - Created a serverless webapp based on a popular free latin dictionary that put it in a readable format (Javascript, Svelte)

HiveDAW	(2022) Created a primitive digital audio workstation where users can connect nodes representing effects, generators, and recorded sources to create music in the browser.

Skills

Web	Experience with Svelte & React with TypeScript; Go and Rust for backends
Robotics+AI	Java, Python, and some C++
Other	Mixpanel/HotJar/Google Analytics, Blender 3D, Vercel, Firebase, Some Azure and GCP services, Figma, Adobe Photoshop, Davinci Resolve, and basic Fusion 360/Inventor knowledge

Misc

Coding Club	(2021-2022) Led a coding club where I gave presentations and coding tutorials on various web technologies and server side languages
Rocketry Club	(2023) We're working to get our level one certification, and launch in November 2023