

Mihir Gonsalves

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EDUCATION

Texas A&M University (Bachelor of Science in Computer Engineering) May 2025
Obra D. Tompkins High School May 2021

Relevant Coursework: Data Structures and Algorithms (C++), Discrete Structures for Computing (Java), Program Design and Concepts (C++), Computer Systems (C++), Computer Architecture and Design (C++, ARMv8), Digital Systems Design (Verilog), Microcomputer Systems (Python), Foundations of SWE (HTML, Python, SQL)

SKILLS

Advanced: C/C++, Java

Experienced: Python, JavaScript/Typescript, HTML, CSS, MATLAB, Verilog, React, x86-64, ARMv8

Tools: PostgreSQL, AWS, Docker, Git/GitHub, Node.js, MongoDB, Unix Shell, VS Code, L^AT_EX

PROJECTS

Personal Website | *HTML, CSS, JavaScript* Feb 2024

- <https://mihir-gonsalves.github.io/> – this website will always be a work in progress

Sudoku Solver | *C++, SMT-LIB, Git, GitHub, Unix Shell, VS Code, Microsoft Z3 Playground* Mar 2023

- Designed and developed a Sudoku solving algorithm in C++ which uses propositional logic to solve up to 10,000 sample Sudoku problems in under 1 second
- The program creates a fully fledged codebase in SMT-LIB which can then be tested in Microsoft's Z3 Playground

Mock Linux Shell | *C++, Git, Github, Linux, VS Code* Oct 2023

- Iteratively designed a CLI that is able to navigate through file systems, offer IPC capabilities, and file I/O redirection seamlessly
- Up to 16 piped commands can be executed within layered child processes, and all background processes are retroactively managed instantaneously

Rev's Grill Point of Sale System | *HTML, CSS, JavaScript, Python, PostgreSQL, AWS, Git, Trello* Present

- Role: Project Leader managing a group of six junior undergraduates, organizing meetups and providing structure through a Trello board and waterfall development methodology
- A Point of Sale system updated to fit present day standards, it shares a consistent user interface for the manager and the user (restaurant now cashier-less) from which inventory is also unified into one database to create a fast and seamless experience that serves over 100 customers a day

EXTRACURRICULAR

Aggie Coding Club | *Member, Project Leader* Sept 2021 – Present

University club specialized in all things computer science through workshops, projects, socials, and company talks

The Odin Project | *Student* Present

High quality coding academy maintained by an open source community, specific focus on Full Stack JavaScript curriculum

OUTREACH

FIRST Ecuador Mission July 2019 – Aug 2019

- Spent a month in Quito, Ecuador fostering creativity and curiosity for robotics in underprivileged communities by renovating an orphanage, training students aged 12-17 to build and program EV3 Lego Robotics, and setting the foundations for a proper FIRST Robotics Club at a local catholic high school

AWARDS

FIRST Engineering Inspiration Award (2019), FIRST Regional Chairmans Award (2019), FIRST District Chairmans Award (2019, 2020)