

Miles Sitcawich

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EDUCATION

Vanderbilt University

Bachelor of Engineering, Chemical Engineering

Nashville, TN

Expected May 2024

Second Major: Applied Mathematics

Minors: Computer Science, Physics, Chemistry

GPA: 4.00/4.00

ACT: 35

Honors: William A. Ma Award (Most Outstanding Sophomore in ChemE), ΣΠΣ Physics Honor Society, Dean's List (all semesters), National Merit Scholarship, National AP Scholar, Minnesota Triple-A Award (Athletic, Academic, Artistic), Japanese American Citizens League Scholarship

PROFESSIONAL DEVELOPMENT / LEADERSHIP

Vanderbilt University, Young Lab, Dept. of Chemical and Biomolecular Eng. (Focus: metabolic eng.)

Nashville, TN

Undergraduate Researcher

January 2022 – Present

- Won VUSE (Vanderbilt Engineering) summer research program stipend to continue research over the summer
- Performed cyanobacterial genetic transformation, metabolite extraction and derivatization, GCMS, and GCMS data analysis for six hrs/wk during the semester and 40 hrs/wk over the summer
- Used machine learning and other data science techniques to improve lab's proprietary program, MUISCA, namely the sections that predict compound composition from molar mass and the validity of a potential compound from GCMS M1/M0 ratios

Vanderbilt University

Nashville, TN

Computer Science Teaching Assistant

January 2022 – May 2022

- Proctored exams in CS 1104 Programming and Problem solving with Python (intro class)
- Held three office hours per week, helping students with if/else branching, function calls, for/while loops, files, and containers
- Graded exams and programming assignments for two hours a week using Slack, GitHub, codePost, and Gradescope

Vanderbilt Men's Club Soccer

Nashville, TN

Secretary

September 2021 – Present

- Presided over team Instagram page and grew its following by 30%, took practice attendance, assisted president in planning practices, performed team laundry, distributed release forms to away teams and arranged ice and coolers at home games
- 15% tryout acceptance rate; four hours of practice and one game each week

PROJECTS

"Are You Smarter than a 5th Grader?" Quiz game

May 2022 – July 2022

- Used ReactJS and CSS to create a quiz game inspired by the TV show and YouTube video renditions
- Click through 10 questions, answer buttons light up green/red depending on choice, score tracked throughout

Online Portfolio

May 2022 – July 2022

- Used HTML, CSS, and GitHub Pages to host website about me with links to other projects

Expression Tree (Command-line Calculator)

April 2022

- Four-week class project for CS 3251 Intermediate Software Design
- Prints and evaluates expressions with integers, variables, and 10 arithmetic operators; keeps track of stats and history
- Over 8,000 lines of code; utilized Gang of Four (GoF) patterns to operate in two different modes, keep track of state, parse input (including commands and expressions), build expression tree, and output result

Universal Gravitation Simulator

March 2022

- Class project for CS 3251 Intermediate Software Design
- Used the Singleton, Composite, Visitor, Iterator, and Abstract Factory (GoF) patterns to simulate orbits of planets and stars

Longest Sequence

November 2021

- Class project for CS 2201 Program Design and Data Structures
- Used recursive backtracking to find the longest sequence of increasing integers in arbitrary 5 x 5 grid of integers

INTERESTS, SKILLS, & CERTIFICATIONS

Software: (Proficient): C++, Python, (Familiar): MATLAB, Excel, HTML/CSS, JS, ReactJS, Git, Quartus, Aspen

Certifications: SChE ELA950 Introduction to Process Safety (2021), SChE ELA951 Hazard Recognition (2021)

Interests: Cooking, Politics, Weightlifting, Running, Soccer, Anime