Sahil Dogra

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EDUCATION

University of Michigan **Ann Arbor, MI**
LSA Honors Program, Intended B.S. in Computer Science *May 2022*
Current GPA: 3.8/4.00

- Relevant Coursework: Data Structures and Algorithms, Programming and Introductory Data Structures, Computer Science Pragmatics, Discrete Math, Introduction to Computer Organization, Foundations of Computer Science

RESEARCH & WORK EXPERIENCE

University of Michigan **Ann Arbor, MI**
CAEN Web Developer September 2019 - present

- Point of contact for users to answer questions, write documentation, and work with HTML/CSS and a variety of tools and languages to create and edit web applications
- Work collaboratively with others to problem solve, developing clean, well-constructed code, picking up new skills pertaining to both frontend and backend development

Wayne State University **Detroit, MI**
Student Researcher May 2016 – September 2016

- Led a team of 3 students in a computational biology project regarding the prediction of deleterious mutations leading to Parkinson's Disease
- Wrote PyMol scripts in order to generate images displaying protein structure and effects of non-synonymous single nucleotide polymorphisms (nsSNPs) on structure

SELECT PROJECT EXPERIENCE

Relational Database Program (C++) - Implemented relational database to efficiently store and retrieve table data using data structures such as hash tables and BSTs; interface consisted of a subset of SQL, including queries such as print, insert, delete, join, etc.
TSP Solver (C++) - Implemented farthest insertion and arbitrary insertion TSP heuristics, in order to find an upper bound in a branch & bound strategy. Constructed an MST via Prim's Algorithm as part of lower bound, iterating through permutations of possible paths and pruning as necessary. Generated optimal tour for 30 points within .304 seconds.
Personal Website (Bootstrap, HTML/CSS, JavaScript): Utilized Bootstrap framework and various HTML/CSS/JavaScript concepts to create sleek, responsive static website.

ACCOMPLISHMENTS

- William J. Branstrom Freshman Prize
- Siemens Competition Semifinalist
- 4x AIME Qualifier
- National Science Olympiad Medalist
- National Merit Finalist

SKILLS

- Experienced | C++, C, HTML/CSS, JavaScript, Git, Bash
- Familiar | Python, Swift, NodeJS, LaTeX, MongoDB