Nathaniel W. Lee

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EDUCATION

Wooster High School — **Wooster, OH**
- GPA: 3.849 — May 2018
- Recipient of Clark P. and Laura McCoy Scholarship

The Ohio State University, College of Engineering — **Columbus, OH**
Bachelor of Science in Computer Science and Engineering — *May 2022*
- Specialization: Artificial Intelligence
- GPA: 3.420
- Dean's List

WORK EXPERIENCE

Center for Electron Microscopy and Analysis (CEMAS) — **Columbus, Ohio**
Undergraduate Research Assistant — *May 2021 – August 2021*
- As a research assistant for CEMAS, my responsibilities include constructing 3D densities from images of cryogenically frozen proteins and specimens taken using a technique called cryo-electron microscopy
- Analyses and discussions were conducted behind each trial in order to determine what parameters can be modified to produce a density with the best resolution
- Several different neural network-based training models like Deep Particle Picker and Topaz Particle Detection and other data analysis tools were utilized in these processes

ACTIVITIES & INVOLVEMENT

AI Club — **Columbus, Ohio**
Member — *March 2020 – Present*
- Goal is to educate and inspire developers to take on artificial intelligence and machine learning to improving and automating the future
- Encourage students to brainstorm and work together in their spare time to create small automating solutions

Code 4 Community — **Columbus, Ohio**
Member — *August 2020 – Present*
- Mission is to spread and advance STEM education amongst local middle schools
- Create fun learning games to teach students the principles of coding and computer science

Engineers without Borders — **Columbus, Ohio**
Member — *August 2020 – Present*
- Create engineering-based solutions to aid in the development of unprivileged countries
- Provide real-world services to nations like El Salvador, Dominican Republic, and The Gambia

PROJECTS

8-Puzzle Problem using Uninformed Search Algorithms
- The 8-Puzzle Problem was recreated with features including a solvability verifier and a goal state successor finder. Breadth-first search, depth-limited search, iterative-deepening search, A* search were implemented to display the different number of states evaluated for each search algorithm

Tic-Tac-Toe using Minimax with Alpha-Beta Pruning
- The simple game of tic-tac-toe was recreated with a game-mode of playing against a computer that chooses moves based on the minimax

Web Scraper
- Using Rails with Mechanize and Nokogiri, this web application scraped Ohio State's Activity Board's website and used the SendGrid library to send a properly formatted weekly itinerary to a specified email address

SKILLS AND INTERESTS

Proficient with Java, C, Python, MacOS, Microsoft Excel
Familiar with SQL, JavaScript, HTML, CSS, Ruby, Rails, Git, Linux, MATLAB, SOLIDWORKS, Agile Methodology

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