# Ayan Nair

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## Education

**University of Michigan** — Ann Arbor, MI

*Bachelor of Science in Engineering in Computer Science, Minors in Math and Business* — *Aug. 2023 – May 2027*

**Honors/Awards:** *Dean's List, University of Michigan Regents Merit Scholarship*

**GPA:** *3.84/4.00*

**Relevant Coursework:** *Data Structures and Algorithms, Discrete Mathematics, Linear Algebra*

## Experience

**Instructional Aide** — Mar 2023 - Aug 2023

*Mathnasium* — *Okemos, MI*

- Provided personalized math instruction to students of various ages and skill levels
- Designed and implemented tailored learning plans to address individual learning needs and goals
- Monitored student progress and provided ongoing feedback to ensure comprehension and academic growth

**Undergraduate Research Assistant** — Nov 2021 – May 2023

*Michigan State University* — *East Lansing, MI*

- Developed a machine learning model to predict the location of atoms from the backbone of mutated proteins under professor supervision
- Normalized molecular vector data and implemented Torch for designing machine learning framework
- Performed with a minimum accuracy of 95% across all atom types in classification

**Research Fair Competitor** — Nov. 2018 – May 2023

- Participated in the Flint Regional Science and Engineering Fair for 6 years
- Received finalist qualification in all years, including qualification for the International Science and Engineering Fair
- Maintain upkeep of computers, classroom equipment, and 200 printers across campus

## Projects

**visuAIizer** | *Python, Gemini API, OpenCV, Toga GUI* — April 2024 – Present

- Developed a software with Google's Gemini API to serve as an aide for the visually impaired
- Designed frontend and backend with Toga GUI to capture real-time footage and integration with Gemini API
- Utilized OpenCV and Threading libraries to parallelize uploading captured footage and retrieving LLM response
- Presented at MHacks x Google Hackathon

**UEFA Euro 2024 Predictor** | *Python, scikit-learn, pandas, Matplotlib, SQL* — Jan 2024 – April 2024

- Designed machine learning architecture with RandomForest from scikit-learn to forecast tournament outcome
- Utilized BeautifulSoup to obtain and compile numerous advanced statistics from European soccer teams
- Generated and refined a comprehensive database with MySQL and Pandas
- Conducted regression tests and trend analysis on cross-competition metrics using Matplotlib

**COVID-19 Chest X-ray Predictor** | *Python, TensorFlow, Keras, PIL, SciPy* — Nov 2020 – May 2021

- Constructed a lightweight convolutional neural network model derived from ResNet50 to predict COVID-19 diagnosis from chest X-rays
- Employed TensorFlow and Keras frameworks to construct a 10-layer model
- Attained an impressive accuracy of 98.3% with a minimal false positive rate of 0.82%
- Presented findings at the International Science and Engineering Fair (ISEF)

## Skills

**Languages**: Java, Python, C/C++, JavaScript, HTML/CSS, Verilog
**Technical Skills**: Machine Learning, Artificial Intelligence, API, Data Analysis, Statistical Modeling
**Interpersonal Skills**: Team Collaboration, Adaptability, Problem-Solving, Communication