

# Jacob Maxson

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## Education

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### Ohio State University

Major: BS Computer Science & Engineering

Minor: Business

Expected Graduation: May 2022

GPA: 3.9

Dean's List

## Technical Skills

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**Programming:** Java, C, C++, C#, Python, SQL, HTML/CSS, JavaScript, MATLAB

**Miscellaneous:** Unity, Excel, Word, Solidworks, Shotcut

## Projects

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### Chess AI:

April 2019—Present

- Used an alpha beta search algorithm with iterative deepening and transposition tables to create an AI for chess. Included MVV-LVA move heuristic to sort moves. Incorporated a quiescence search with delta pruning in combination with aspiration windows to improve performance. Coded in C#.

### Snake AI:

June 2019—August 2019

- Developed a neural network to create an AI for the arcade snake game. Network had 9 input neurons, 2 hidden layers, and 4 output neurons. Implemented a genetic algorithm to train the AI. Coded in Python.

### Tic-Tac-Toe AI:

January 2019—April 2019

- Utilized a minimax algorithm to create an AI for Tic-Tac-Toe while implementing maps to track move history. Coded in Java.

### Robot:

January 2019—May 2019

- Constructed and coded a robot to navigate an obstacle course. Modeled complete robot in Solidworks. Entered the official OSU Robot Competition and placed 3<sup>rd</sup> overall, receiving a cash prize. Coded in C++.

### Penny Football:

April 2018—May 2018

- Programmed a game in Java that used custom distance and velocity equations. Recreated the game with the Unity editor and added custom graphics. Scripts were written in C#.

### March Madness Predictor:

July 2019—Present

- Designed a web scraper to retrieve statistics of college basketball teams. Linear regression was used to predict a march madness bracket based on the statistics of the teams competing. Coded in Python.

## Other Experience

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### Shadowing

May 2018

- Shadowed a Lead Applications Developer at Kent State University.
- Gained 30+ hours of field research experience focused on web development.

## Extracurricular Activities

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- AI Club August 2018—Present
- Algorithm Club August 2019—Present
- GRE Math Tutor March 2018