

Nick Withers

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EDUCATION

University of California, Davis — *BS Computer Science*

September 2019 - December 2022

GPA: 3.956

SKILLS

- Proficient in C/C++, Java/JavaScript, Python, HTML/CSS
- Experience with WEBGL, GLSL, Haskell, Prolog, Erlang, MATLAB
- Full stack web application development
- Critical Thinking and Problem Solving
- Basic computer architecture
- Effective Written/Verbal Communication

EXPERIENCE / COURSE WORK

Artificial Intelligence

Winter 2022

- Implemented A* path search algorithm to navigate down Mt. Saint Helens
- Wrote a program which implemented minimax algorithm to play connect 4 against a computer player as well as other students
- Built and trained a model which used deep Q-learning to play pong

Web Programming

Spring 2022

- Built web-based game based on preferences over user inputted TikTok videos using a simple SQLite database
- Browser-side programming using Javascript, HTML, CSS, Flexbox and server-side programming using Node.js and Express
- Developed a React app with a React server and Node/Express server which performed an API call based on a calendar picker to get reservoir data from the CDEC which was displayed on a dynamic display

Algorithm Design and Analysis

Spring 2021

- Complexity of algorithms, bounds on complexity, analysis methods
- Searching, sorting, pattern matching, graph algorithms
- Algorithm design techniques: divide-conquer, greedy, dynamic programming

Computer Vision

Spring 2022

- Implemented functions for filtering and edge detection using MATLAB
- Implemented a robust homography estimation in MATLAB using Harris corner detection, SIFT descriptors, and RANSAC to stitch a pair of images
- Trained and augmented a deep network using PyTorch to classify the images in the CIFAR10 dataset

INTERESTS

- Blockchain
- Generative Art
- Gaming
- Golf
- Travel