

Patrick Byrd

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Education

Bachelor of Science, Computer Science

University of Florida GPA - 4.0

Gainesville, FL

Graduation - May 2026

Relevant Coursework - Advanced Programming, Discrete Structures, Computational Linear Algebra

High School Diploma

Duncan U. Fletcher High School GPA - 4.5

Neptune Beach, FL

Graduated - May 2023

SAT - 1550/1600, National Merit Scholar Finalist, Graduated with over 50 college credit hours

Projects

Swell Quality Neural Network | Python, PyTorch

January 2024 - Present

- Implemented a multilayer neural network in PyTorch to analyze the features of swell in Jacksonville Beach
- Trained on historical swell and weather data available from the National Data Buoy Center
- Leverages NVIDIA CUDA to process tensor inputs of swell height, dominant period, and wind speed
- Generates predicted wave height and wave quality of the swell at the beach break

Wordle Solver | JavaScript

January 2022 - March 2022

- Developed a tool to help users solve The New York Times online game Wordle
- Referenced a data set of all possible Wordle answers and prior user attempts to output the most likely answer
- Filtered possible answers through a multidimensional array using logic based on letter index within strings
- Consistently solved the Wordle, often in only three attempts

Honors and Awards

AP Computer Science Principles Perfect Score Award

- One of only 196 students worldwide (0.15% of 2022 test takers) to earn every point on the 2022 AP Computer Science Principles Exam

2023 Fletcher High School Student of the Year

- Nominated by FHS faculty to represent among a pool of 18 candidates - Interviewed and then selected as male student of the year by the Jacksonville Beach Exchange Club

Activities and Involvement

Open Source Club

Member

Gainesville, FL

January 2024 - Present

- Active contributor to the front-end of the Echologator project, a proximity-based messaging app

Surf Club

Member

Gainesville, FL

January 2024 - Present

- Avid surfer, favorite breaks include Mayport Poles - FL, Ocean Beach - CA, and South Shore of O'ahu - HI

Science National Honor Society

Vice President

Neptune Beach, FL

August 2022 - May 2023

- Led the FHS SNHS chapter in its first competition in the Florida Science Olympiad at Embry Riddle
- Increased the chapter's membership by over 200% resulting in the active membership of over 40 students

Habitat for Humanity

Volunteer

Mayport, FL

May 2022 - August 2022

- Collaborated with a diverse group of volunteers to build and renovate affordable housing in the Mayport area

Employment

Boardsports California

Kiteboarding, Windsurfing, and Wingfoiling Instructor

San Francisco Bay, CA

March 2019 - July 2021

- Fostered leadership skills by instructing up to 20 adult students in watersport lessons
- Demonstrated risk management to ensure student safety while concurrently teaching highly complex topics
- Exhibited adaptability and alertness to counter San Francisco Bay's dynamic weather and water conditions