

Alexander Paolini

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EDUCATION

University of Central Florida, Burnett Honors College

Bachelor of Science in Computer Science

University Associations: KnightHacks; Honors Congress; KnightRiders

Relevant Coursework: Discrete Structures; Programming with C; Calculus III

Orlando, FL

Aug 2024 – May 2028

West Boca Raton Community High School

High School Diploma

Relevant Coursework: Statistics; Programming with Java

Boca Raton, FL

Aug 2020 – May 2024

EXPERIENCE

Better World Analytics

Summer Intern

- Developed data processing scripts using Python and pandas to analyze call detail records and timing advance tables.
- Mapped potential criminal paths using kepler.gl, potentially assisting defense lawyers in preventing false imprisonment.
- Collaborated with a team through weekly standup meetings, maintaining effective communication via email with coworkers and supervisors.

Melbourne, FL

May 2024 – Aug. 2024

Mathnasium

Instructor

- Guided 1-4 students at a time, primarily in Algebra II and Calculus, using the Socratic method to enhance critical thinking and problem-solving skills.
- Developed individualized learning strategies that significantly improved students' understanding of complex mathematical concepts.

Boca Raton, FL

Dec. 2022 – Aug. 2024

JPBBots

Volunteer Developer

- Developed many different Discord bot applications including Censor Bot, a bot that would automatically delete inappropriate or disallowed words/phrases.
- Led the development of Censor Bot's filter, ensuring comprehensive coverage against inappropriate language, including handling lookalike characters and diacritics.
- Gained experience in proper development workflows using Git and Docker with TypeScript, contributing to a project utilized by over 100,000 communities and millions of users.

Remote

2021 – 2023

PROJECTS

Censor Bot | *NodeJS, Typescript, Regex, React, Express.js*

- Worked on a Discord bot with Node.js and a custom WebSocket library featuring a sophisticated filter that censors inappropriate language, improving community safety.
- Wrote the filter to deal with combining characters (diacritics) and unicode lookalike characters to prevent bypasses.

Terano Bot | *NodeJS, TypeScript, WebSocket, node-canvas, git*

- Developed a multifunctional Discord bot, experimenting with WebSocket and Discord API for innovative user interactions.
- Implemented various utility commands that enhanced user experience and engagement on the platform
- Designed a meme generator using canvas for image manipulation, allowing users to create customized content.

ShareX Server | *JavaScript, redis, MongoDB, git, Mongoose*

- Developed a webserver that allowed users to upload screenshots automatically through **ShareX** or equivalent software.
- Built a frontend using Express.js and ejs to allow users to view and manage their uploaded files.
- Experimented with node based file storage allowing files to be stored separately among many different servers
- Implemented a time-based cache on files using redis to temporarily save images on the host server, reducing overall requests to file storage nodes.

HONORS AND AWARDS

Student at the Burnett Honors College

West Boca Raton High School Pathfinder Award Nominee

12th place at the 38th Annual UCF High School Programming Tournament

UCF Provost Scholarship

TECHNICAL SKILLS

Programming Languages: Python, C#, C++, C, Java, JavaScript, TypeScript

Libraries/Frameworks: numpy, pandas, Next.JS

Tools/Platforms: Windows, Linux, MacOS, Raspberry Pi, Node.js, VSCode, kepler.gl, L^AT_EX