Cole Smith

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EDUCATION

University of Florida   Aug. 2023 – May 2027
Bachelor of Science in Computer Science, Minor in Mathematics   *Cumulative GPA: 4.00*
- **Relevant Courses**: Data Structures and Algorithms, Advanced Programming Fundamentals, Intro to Computer Organization, Computational Linear Algebra, Applications of Discrete Structures

EXPERIENCE

Undergraduate Researcher   Aug. 2023 – Present
UF SurfLab   *Gainesville, FL*
- Developing and optimizing an iOS client for a 4-DOF surgery simulation tool, enabling precise motion tracking and real-time data transmission for enhanced surgical training and education
- Enhanced computational geometry techniques through software upgrades for converting quad-dominant meshes into B-spline patches, enabling smooth surface creation without major overhead
- Integrated a Bernstein-Bézier coefficient generator for polar patch generation, extending sector support from 3-8 to any arbitrary $n \geq 3$.

Technical Officer   Dec. 2023 – Present
UF Software Engineering Club   *Gainesville, FL*
- Developing a full-stack mobile application aimed at unifying the UF club experience to promote university-wide club participation
- Collaborating in an Agile team environment, utilizing the Scrum framework with bi-weekly sprints and sprint retrospectives for efficient project management

PROJECTS

Attitune | *Next.js, Flask, MongoDB, Tailwind CSS, OpenAI*   Oct. 2023
- Utilized OpenAI GPT-4 API for sentiment analysis of 4 distinct attributes to recommend music
- Incorporated a cloud database with MongoDB Atlas populated with migrated Spotify Web API data to increase performance by 92% and eliminate the risk of rate limits

Hospes | *MERN Stack (MongoDB, Express, React, Node)*   Sep. 2023
- Implemented a host/property filtering system and a REST API to connect to the React frontend
- Quickly adapted to teck stack challenges, requiring a migration from Django to MERN due to authentication limits near the end of development

Graphing Calculator for iOS | *Swift*   July 2023
- Engineered a comprehensive graphing calculator featuring a custom-built parser, tokenizer, and interpreter, capable of graphing multi-argument functions

Sorting Algorithm Visualizer | *HTML, CSS (Bootstrap), JavaScript*   May 2023
- Developed an algorithm visualizer featuring a variety of sorting methods, complete with options to visualize each sort step-by-step and input custom arrays

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript, HTML/CSS, Swift, Java, SQL
Frameworks & Libraries: React, Next.js, Node.js, Flask, Tailwind, TensorFlow
Developer Tools: MongoDB, Git, Unix, Linux, VS Code