Tarik Castro de Oliveira

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EDUCATION

University of South Florida — **Tampa, Florida**
B.S. in Computer Science — *Expected Graduation, May 2028*
- **GPA:** 4.00 / 4.00

EXPERIENCE

Viable Energy Blockchain Research — **Curitiba, Paraná, Brazil**
Blockchain Researcher & Developer — *May 2023 – Nov 2023*
- Researched and investigated the role of **Blockchain and P2P networks** in **energy microgrids**, authoring a **20+ page academic paper** that explores decentralized energy transfer, renewable energy integration, and smart contract applications.
- Engineered and programmed a **functional blockchain prototype** using **TypeScript**, simulating peer-to-peer energy transactions, reducing reliance on centralized suppliers and which resulted in a potential **improvement of 10-15%** in energy distribution efficiency.
- Validated and assessed the **scalability and interoperability** of Blockchain-P2P energy transfers, demonstrating how microgrid participants can **optimize resource allocation and transaction security** across multiple devices.

PROJECTS

AI Image Classifier — **Tampa, Florida**
Program Developer — *Jul 2025*
- Developed an **AI** image classifier application in **Python**, leveraging **TensorFlow** for **deep learning**, and integrated **NumPy**, **OpenCV**, and **Streamlit** for efficient data processing, image handling, and user interface deployment.
- Customized and enhanced a **UI framework** to streamline image classification workflows, applying **computer vision** techniques and optimizing data processing for accurate results.

Portfolio Web Application — **Tampa, Florida**
Program Developer — *Jul 2025*
- Designed and **developed a responsive** personal portfolio using **React.js** and **Tailwind CSS**, highlighting skills in **web development**, **UI/UX design**, and modern **frontend frameworks**.
- **Implemented** dynamic components to fit all screen sizes and **optimized** performance and styling workflows, demonstrating proficiency in **JavaScript**, **component architecture**, and **responsive design principles**.

Free Food Newsletter — **Tampa, Florida**
Program Developer — *Sept 2024*
- **Collaborated** with peers to develop a **Python script** to automatically **scrape** event data from the University of South Florida website and leveraged **AI** to identify events offering free food, **improving event accessibility** for students.
- Scraped data from **40+ events**, designing and implementing a subscription-based newsletter system that integrates **Selenium** for **web automation, AI-powered text analysis (OpenAI & Perplexity APIs),** and **.env-based API key** management, enhancing usability, scalability, and event discovery efficiency.

Geography Trivia Web Application — **Curitiba, Paraná, Brazil**
Front-End & Back-End Developer — *May 2023 – Aug 2023*
- Designed and developed a geography quiz web application to engage **150+ children and students**, significantly helping them **improve geographical knowledge** and **critical thinking skills** through an interactive, game-based approach.
- Engineered and implemented the application using **Django (Python)** for the backend and **HTML/CSS** for the front end, leveraging **Django's ORM** for seamless **database integration** and **data management**.
- **Communicated technical insights** by authoring a **30+ page report**, providing an in-depth analysis of the application's purpose, user needs, and code structure, serving as a **foundational blueprint for future development, scalability.**

ACTIVITIES AND LEADERSHIP

University of South Florida — **Tampa, Florida**
*Brazilian Student Association **(Professional Development Analyst);*** — *Jul 2025 - present*
*Association for Computer Machinery **(former Project Member);*** — *Jan 2025 – May 2025*

SKILLS & CERTIFICATIONS

Programming & Tools: Python, JavaScript, React.js, Typescript, Django, SQL, Tailwind CSS, HTML/CSS, Node.js, Flutter, Dart.
Languages: Fluent in English and Portuguese; Intermediate in Spanish.