Leonardo Cobaleda

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Education

University of Florida GPA: 3.5
Bachelor of Science in Computer Science, Minor in Entrepreneurship August 2021 - May 2025
Coursework: Data Structures & Algorithm, Data Science, Information & Databases, Intro to SWE, Artificial Intelligence Fundamentals
Awards: Dean's List (4 Semesters), Here & Now Award, Bright Futures Scholarship, AI Fundamentals & Applications (IP)
Current Clubs: Society of Hispanic Professional Engineers, Open Source, G(AI)tor Club

Technical Skills

Languages: Python, C++, JavaScript, HTML/CSS, TypeScript, Swift, Dart
Frameworks: React, React Native, Node.js, Express.js, Next.js, Chakra-UI, Material-UI, Expo, Flask
Databases: MongoDB, Firebase
Professional: Bilingual (Spanish), Microsoft Office, Trello, Slack, Discord, Ausana

Experience

Carrebra Inc. September 2023 – December 2023
Software Engineer Intern *Miami, FL*
- Contributed to the enhancement of various components within the FERN stack as a Full Stack Developer and AI Prompt Engineer, leading to an upgraded deployment of the application across different media queries.
- Improved the AI generative prompt to support multiple image descriptions and integrated a style component to facilitate various generative styles that lead to 50% increase in precision and depth of the information generated for users.
- Optimized the storage of images by implementing a method to receive them from OpenAI as base64 encoded strings and converting them to SVG format, resulting in a 20-30% increase in storage efficiency.

Society of Hispanic Professional Engineers (SHPE) August 2023 - Present
Autonomous Vehicle Team Member *Gainesville FL*
- Maximized Raspberry Pi capabilities with Python by integrating and effectively utilizing multiple sensors, including ultrasonic, infrared sensors, and the PiCamera, resulting in the successful implementation of autonomous driving capabilities.
- Proficiently employed Haar cascades to enhance traffic sign detection via the PiCamera, leveraging OpenCV, thereby optimizing traffic precision and maneuverability.
- Trained vehicle with machine learning models for real-time decision making on diverse terrains, resulting in notable increase in accuracy.

Machine Learning & Sensing Laboratory (UF) November 2023 – December 2023
Undergraduate Research Assistant *Gainesville FL*
- Conducted machine learning analysis of coral reef ecosystems for a DARPA-sponsored Navy project, labeling underwater acoustic spectrograms to increase algorithmic precision and advance the understanding of coral reef acoustic dynamics.

Projects

TrendLens GitHub View
- Designed and collaborated on a data visualization web-app, by leveraging the Dash framework, Plotly for graphing, HTML, CSS, and Python to create a trend line analysis of keyword frequency in news articles over selected year ranges.
- Architected and optimized the backend of TrendLens to efficiently query and process a dataset of over 900,000 New York Times articles using custom-constructed ordered and unordered map data structures which allowed for implementation of random graph generation.
- Innovated a CSV-based data retrieval system to circumvent New York Times API constraints, ensuring reliable data availability for user interactions with the web-app's historical and current news keyword trends.

Bandit Banking (Shell Hacks Capital One Challenge) GitHub View
- Led a team in developing an innovative banking app using JavaScript, React-Native, and Expo to revolutionize the banking experience.
- Developed the app to include credit card balances with transactions, location-based cashback map, and settings page with credit score and grade, tips on improvement to the score, and re-evaluations.
- Integrated geolocation API and Apple Maps API to allow access to user GPS coordinates to find cashback stores within a 10-mile radius optimize the use of cashback for company and partnership profit.

Minesweeper GitHub View
- Executed a full-featured Minesweeper game in C++ using the SFML library, featuring three difficulty levels and a time-tracking scoreboard.
- Utilized object-oriented programming to create a recursive algorithm for generating game boards with bombs and corresponding numbers.
- Designed and implemented a mouse-click coordinate mapping system to validate player inputs on the game board.

Leadership Experience

Society of Hispanic Professional Engineers (SHPE) September 2023 - Present
Mentor *Gainesville, FL*
- Supported mentees, fostering their academic advancement, professional growth, and networking skills during regular meetings.
- Actively encouraged mentees to participate in clubs, networking events, and recommended relevant projects to enhance their exposure.
- Engaged in club-focused challenges and activities alongside mentees, fostering camaraderie and progress within our shared initiatives.