

Carlos Barajas

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EDUCATION

University of California, Irvine

Bachelor of Science in Computer Science and Engineering

Graduation Date: Jun 2023

Relevant Courses: Data Structures, Algorithms, Object-Oriented Programming principles, Compilers and Interpreters, Intro to Artificial Intelligence, Machine Learning and Data-Mining, Computer Architecture, Computer Networks, Embedded Software, Digital Computers, IoT Software and Systems

SKILLS

Programming Languages: Python, C++, Java, JavaScript, Prolog, Lisp, Assembly Language (RISC-V)

Software Technologies: HTML, CSS, Bootstrap, React, Git, GitHub, Bash, Django, MySQL, AWS, Arduino, Verilog, Solidworks, OpenCV

Soft Skills: Problem-solving, critical thinking, attention to detail, determination, organization, communication

PROJECTS

Sorting Visualizer Web App (React, JavaScript)

Feb 2024 – May 2024

- Developed a single-page sorting visualizer application using React and JavaScript
- Created an interactive user interface that allows users visualize various sorting algorithms
- Maintained a clean and modular codebase with separate components for the header, footer, display of sorting bars, and information for each algorithm implemented following best practices for code readability and scalability
- Conducted thorough testing to ensure correct algorithm behavior and smooth user interactions
- Hosted the application on GitHub and deployed it on GitHub Pages ensuring an uptime of over 95%

Little Lemon Restaurant Back-End (Django, Python, MySQL)

Nov 2023 – Jan 2024

- Leveraged Django and its Rest Framework to create a robust backend for a fictional restaurant
- Designed RESTful API endpoints to manage various aspects of the restaurant system
- Implemented a range of API endpoints to handle critical functionalities such as managing employee and customer data, handle menu items and their categorization, and management of orders and table reservations
- Integrated MySQL database connectivity into the restaurant system to allow scalability and efficiency
- Designed and implemented a secure authentication system using token-based authentication in Django to ensure data privacy and prevent unauthorized access to sensitive information

Humanoid Robotic Mirroring Arm (C++, Python, Arduino)

Sep 2022 – Mar 2023

- Worked closely with a team of three to create a robotic arm capable of mimicking real-time human arm movements captured by a webcam with low error rates between 10% and 14%
- Established a Git team repository to facilitate seamless code collaboration among team members
- Designed and 3D printed a functional robotic arm prototype using SolidWorks and ensured 100% precision and accuracy during the design phase
- Contributed significantly to a Python script that extracts coordinates from a human arm using the MediaPipe framework which boasts an impressive accuracy rate of 95.5%
- Rigorously tested the script with unit tests to verify every function's correctness
- Developed a C++ file for an Arduino Nano to receive information via PySerial communication and utilized Pulse-Width Modulation (PWM) to control the servo motors accurately

CERTIFICATIONS

Meta Back-End Developer Professional Certificate | Coursera

Nov 2023 – Feb 2024

- Completed a 9-course series on back-end development covering Python, Linux commands, Git, SQL, version control, cloud hosting, APIs, Django framework, and some concepts regarding the Full Stack