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Isaac Ramírez

https://www.izackk.com
CR Citizen

EDUCATION

Instituto Técnologico
San Carlos, Costa Rica

Bachelor of Science (B.S.) in Computer Engineer, GPA: 3.59/4.0
Aug 2018 – May 2022

- **Concentrations**: Artificial Intelligence & Web Development, Programming Languages (Python, Rust, Java, C++), Algorithm Design, Database Management (MySQL)
- **Coursework**: Data Structures & Algorithms, Object-Oriented Programming, Objects & Software Design, Computer Organization, Design of Algorithms, Database Systems, Statistics, Applied Combinatorics

WORK EXPERIENCE

Created My Own Web Portfolio
San Carlos, CR

Software Engineering Intern
July 2024

- Designed and developed a personal web portfolio to showcase recent projects using React and TailwindCSS, ensuring a responsive and visually appealing user interface.
- Implemented dynamic components and interactive features to enhance user engagement and presentation of project details.
- Utilized version control with Git to manage project development and collaborate effectively.

Research Assistant in Artificial Intelligence
San Carlos, CR

Student Software Engineer
June 2023 – August 2024

- Developed a software application for detecting real versus fake individuals using Face Anti-Spoofing techniques.
- Trained YOLO models to identify various types of fake images related to Face-Spoofing and object detection.
- Created a software solution for verifying the authenticity of individuals by analyzing eye blinks through eye detection.
- Conducted research on Vision Transformer algorithms.

Statistical Book Created with R
San Carlos, GA

Mathematics Instructor's Personal Project
August 2022 – January 2023

- Authored and compiled a comprehensive statistical book utilizing R for advanced data analysis and visualization.
- Employed LaTeX for precise mathematical typesetting, ensuring clear and accurate presentation of formulas and equations.
- Utilized Markdown to structure and format textual content and sections, enhancing readability and organization.
- Incorporated various libraries to generate informative graphs and charts, effectively illustrating diverse data insights.

PROJECTS

- **PuraCompra: E-commerce Intermediary Platform**: Developed an intermediary platform facilitating online purchases from multiple vendors, including Amazon, Best Buy, Micro Center, Walmart, and Gymshark. Designed and implemented a robust SQL database schema for user management, order tracking, and product information. Built the backend using Node.js and Express, and integrated with MySQL for database operations. Developed a user-friendly frontend with React.js and Bootstrap, incorporating features such as shopping cart management, order status tracking, and user role differentiation. Implemented functionalities for promotions, reviews, and ratings to enhance the shopping experience.
- **Ticket Booking Server in Rust**: Developed a high-performance ticket booking server using Rust, leveraging its efficiency and stability. Designed a socket-based communication system to handle real-time ticket transactions and seat availability updates. Implemented an algorithm to determine optimal seating based on visibility percentage and proximity to desired locations. Ensured robust error handling and concurrency management to maintain server reliability under high load.
- **Web Scraping Game Crawler**: Developed a comprehensive solution for comparing video game prices across multiple online platforms such as G2A, INSTANT GAMING, and PS4 STORE. Utilized Scrapy for efficient data extraction, a JSON-based mini database for fast storage, Flask for a scalable backend, and VueJS for a dynamic frontend. Features include efficient game search, automatic updates, and a user-friendly interface.

Extracurricular Activities

Robotics: Engaged in an advanced robotics course focused on designing, constructing, and programming robotic systems. Acquired hands-on experience in both mechanical assembly and software development to enhance the functionality and performance of robotic systems.

Computer Building and Repair: Extensive experience in assembling and troubleshooting computers. Successfully built numerous custom PCs and addressed various technical issues through comprehensive repairs and upgrades.

Skills

Languages: Python, Java, Javascript, C++, C, Rust, Latex, R, Go

Technologies: Proficient in a broad range of technologies and tools, including:

* **Version Control & Collaboration:**: Git
* **Web Development:**: Node.js, React, HTML/CSS, Tailwind
* **Databases:**: MySQL, MongoDB, PostgreSQL
* **Backend Frameworks:**: Flask
* **Cloud Platforms:**: AWS, Azure, Google Cloud
* **Containerization & Virtualization:**: Docker
* **Operating Systems:**: Linux, MacOS, Windows
* **Data Science & Machine Learning:**: PyTorch, TensorFlow, OpenCV
* **Documentation:**: Pandoc, Latex
* **Productivity Tools:**: Notion