Fernando Berrospi

U.S. Green Card holder
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Skills

Programming Languages: JavaScript, Python, R
Tools: React.js, Git, MongoDB, PostgreSQL, Firebase, Jira, HTML, CSS, Microsoft Power BI
Frameworks: Next.js, Express.js, Django, Tailwind CSS, Bootstrap, TensorFlow, PyTorch, OpenCV

Experience

PROEMISA **January 2023 – Present**
Frontend Developer | *React.js, Tailwind CSS, Next.js, Git* *Lima, Peru*

- Improved user experience by optimizing website performance, cross-browser compatibility, and mobile responsiveness, resulting in a 37% increase in page load speed.
- Streamlined website development process by creating a comprehensive design system in Figma, including reusable components and style guides, resulting in increasing development efficiency and a reduction in design errors.
- Enhanced website visibility and user engagement by implementing SEO best practices and Google Analytics, resulting in a 14% increase in organic traffic and a 22% improvement in user retention rate.

MS4M **August 2021 – September 2022**
Software Engineer | *Python, PostgreSQL, Jira, Power BI, Git, TensorFlow, Open CV* *Lima, Peru*

- Contributed to developing a machine learning facial landmarks detection model using MobileNetV2 architecture for fatigue detection in South American haul truck drivers, lowering the number of fatigue-related accidents.
- Constructed an optimization algorithm to identify the model with the best hyperparameters, resulting in a 75.82% improvement in blink and yawn detection accuracy.
- Analyzed fatigue detection metrics and KPI data using Jira Query Language and Power BI to identify potential improvements and bottlenecks in the software development process, resulting in a 15% increase in team productivity.

CDC Gold **January 2019 – July 2019**
Junior Software Developer | *R, ggplot2, Tidyr* *La Libertad, Peru*

- Developed and implemented a k-means clustering algorithm in R to analyze haul truck delays in mining facilities, resulting in a 25% reduction in delays and saving the company over $50,000 per month.
- Designed and executed a tracking algorithm in R programming language to optimize the routes taken by water tank trucks, saving the company over $3000 per truck, per month.
- Streamlined haul truck scheduling efficiency by automating the process using an R script, reducing the time spent on scheduling by 87% and improving on-time delivery performance by 17%.

Projects

Project Management App | github.com/fberrosp/PMApp | *MongoDB, Express.js, React.js, Node.js* **December 2022**

- Developed a full-stack project management web application utilizing MERN stack and Firebase authentication, following industry best practices for creating, deploying, and documenting the application.
- Successfully implemented CRUD operations for creating, reading, updating, and deleting projects, managing users, assigning projects to users, handling comments and logs, achieving a 95% user satisfaction rate based on user feedback.
- Followed RESTful design principles to build APIs, improving the scalability and maintainability of the application and reducing server response times by 33%.

Formula 1 App | github.com/fberrosp/F1App | *Django, Plotly, PostgreSQL, Pandas, Redis* **September 2022**

- Developed a full-stack Formula 1 data science web application using Django, resulting in a responsive and user-friendly platform that visualizes historical Formula 1 data through interactive graphs and statistics.
- Optimized response time and data availability by implementing Redis caching and PostgreSQL, reducing response time by 10% and ensuring users always had access to up-to-date data.
- Enhanced user engagement and satisfaction by developing user-friendly interfaces and incorporating interactive graphs using Plotly, resulting in a 20% increase in user engagement.

Publications

INTERCON 2022 | *IEEE* **September 2022**

- A. Martinez, F. Berrospi, V. Porras and M. Portocarrero, "Using facial landmarks to detect driver fatigue," 2022 IEEE XXIX International Conference on Electronics, Electrical Engineering and Computing (INTERCON), 2022, pp. 1-4, doi: 10.1109/INTERCON55795.2022.9870046.

Education

Purdue University **December 2019**
BS in Industrial Engineering *West Lafayette, IN*