Fernando Berrospi

U.S. Green Card holder

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WORK EXPERIENCE

MS4M **Aug. 2021 – Aug. 2022**

Software Engineer *Lima, Peru*

- Collaborated in the overhaul of a facial point detection algorithm to improve the accuracy of a fatigue detection system from 27.91% to 87.10%.
- Determined the performance of a face detection machine learning model using an open-source tool to evaluate the mean Average Precision (mAP).
- Constructed an algorithm to identify the model with the optimal blink and yawn detection results to maximize the precision and sensitivity of the model.

CDC Gold Peru **Jan. 2019 – July 2019**

Junior Software Developer *La Libertad, Peru*

- Developed a k-means clustering algorithm to identify haul truck delays in the mining facilities.
- Designed a tracking algorithm to trace routes taken by water tank trucks saving the company over $3000 per month.
- Upgraded haul truck scheduling efficiency by automating the process using an R script reducing the time spent on the scheduling process by 85%.
- Supervised a team to design and implement an innovative irrigation system saving the company over $5000 per month.

PUBLICATIONS

INTERCON 2022 **September 2022**

IEEE *Lima, Peru*

- 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**

B.S. in Industrial Engineering West Lafayette, IN

PROJECTS

F1 EDA Grand Prix Analysis **September 2022**

Data Science *Lima, Peru*

- Problem Statement: What factors will determine who is more likely to win a specific Grand Prix?
- Conducted a thorough data cleaning process using Pandas and Seaborn Python libraries.
- Performed univariate and multivariate analysis to determine relevant variables and spot possible correlations.
- GitHub repository: https://github.com/fberrosp/F1-EDA-Grand-Prix-Analysis

Shortest Path Problem **Aug. 2017 – Dec. 2017**

Optimization Consultant *West Lafayette, IN*

- Designed greedy heuristic model to simulate vehicles' delivery routes under numerous circumstances.
- Developed an algorithm in R to perform constraint analysis, test different scenarios and map optimal solutions.
- Demonstrated effective planning and management skills to compile the formal report.

SKILLS

- **Programming Languages:** Python, C, MATLAB, R, Java, SQL, Visual Basic for Applications (VBA).
- **Tools:** Git, PostgreSQL, Anaconda, TensorFlow, PyTorch, FastAI, Microsoft Power BI, Microsoft Excel, Bootstrap, HTML, CSS.
- **Language Skills:** Spanish (native), English (fluent), French (proficient), Italian (proficient).