WILLIAM BERRIOS ROJAS

(+51) 980-465-905 wberriosr@uni.pe github.com/williamberrios

RESEARCH INTERESTS

Computer Vision, Deep Unsupervised learning, machine learning and robotics.

EDUCATION

National University of Engineering. Lima, Peru. Jan 2014 - December 2019
B.S. Mechatronics Engineering (Robotics).
Cumulative GPA: 4.0/4.0
Summa Cum Laude. Rank 1/45

Hochschule Furtwangen University, Germany. Sep. 2018 - Feb. 2019
Faculty of Computer Science.
International exchange program.

PROFESSIONAL EXPERIENCE

Artificial Intelligence fellow - Pi School May. 2021 - June 2021
Translated - Rome, Italy

· Worked as a machine learning intern under the advice of Sébastien Bratières developing NLP models for email offers classification and slot filling for detecting bussiness and contact information on emails. See presentation here

Research Intern Jan. 2021 - April 2021
Electronic Visualization Laboratory, University of Illinois at Chicago, Illinois - USA

· Worked in the intersection of computer vision and visual analytics under the advice of Elisabeta Marai. We are developing a deep active learning interface that incorporates the human in the loop for labeling biomedical datasets. See presentation at EEML Summer School.

Data Science Intern Sep 2019 - Dec 2020
Pichincha Bank, Lima - Peru

· In collaboration with the business specialists, we developed and implemented machine learning models for loan default prediction, credit card customer behavior and debt collection management
· Trained 5 co-workers from the Advanced Analytics team in Python and Machine Learning. We covered topics like classes, objects, loops, supervised & unsupervised learning.

Undergraduate Researcher in Robotics & Artificial Intelligence Jan 2018 - Aug. 2019
Intelligent Systems Lab, Lima, Peru

· Developed a comparison of traditional and machine learning methods for evaluating the current health condition of bearings presented in mechanical systems
· Implemented a prototype of an autonomous mobile robot for parking surveillance. We developed path planning algorithms in ROS and an object detection algorithm (YoloV3) for recognizing the license plates of cars. All the system was embedded in a Jetson TK1.

HONORS AND AWARDS

Recognition for being a winner of international machine learning competitions - 2021

Fifth place at Entel Datathon - Peru 2021

First place at WiDS Bay Area - Google Datathon 2021
Developed a machine learning model for predicting if a visitor will add items to the cart using their data from Google Analytics

Selected to participate at Machine Learning Summer Schools (MLSS) 2021

Selected to participate at 11th Lisbon Machine learning summer school 2021

Selected to participate as poster presenter at EEML summer school 2021

First place at Data Science Challenge - BNP Paribas Cardif 2021
Developed a deep learning model for predicting the nutrition level of several types of food. See solution at: BNP Paribas Cardif solution

Second place at International Datathon - Interbank 2021
Developed a predictive algorithm to estimate the probability of default of peruvian entrepreneurs who have acquired a loan. Awarded by $6000 dollars.

First place at regional datathon - Grupo BanColombia 2021
Design a machine learning model in order to estimate the personal expenses of the largest bank in Colombia in order to adjust the payment capacity of customers. Awarded by $2000 dollars

NVIDIA GTC 2021 - LatinX in AI 2021
Selected for a free pass in training workshops at NVIDIA GTC 2021.

Brewing Data Cup - AB InBev 2020
Second place at the data science competition organized by Backus (Peru), Grupo Modelo (Mexico) and Bavaria (Colombia).

Research Experience for Peruvian Undergraduates (REPU) 2020
Selected to perform a remote research internship in Computer Science at the Electronic Visualization Laboratory at the University of Illinois at Chicago.

Finalist at the ERC space and robotics event 2020
Part of the KAMAYUC team that participated in the final stage at the European Rover Challenge.

First place at the data science competition - Interbank (Peru) 2019

First place at the national data science competition - Movistar (Peru) 2019

Dean's list for Mechatronics Engineering at National University of Engineering 2019

Baden - Württemberg Scholarship 2018
Awarded by $7500 in order to study at Hochschule Furtwangen University in Germany.

Eduardo de Habich Award 2017
Awarded for being the student with the highest GPA in the major of Mechatronic Engineering.

PROJECTS

Deep Active Learning Segmentation of Defaults in Steel Surfaces Mar. - July 2020

Applied efficient labeling methods in order to demonstrate the effectiveness of active learning on default segmentations present in steel surfaces.

Prediction of children's bone age from a Brazilian hospital Mar. - July 2020

Fine-tuned pretrained convolutional models (VGG16, ResNet50, ResNet152, DesNet192) for image data and integrated with tabular data. After augmenting the training samples, our best performing models (ResNet152 and DenseNet169) got 11.36 RMSE as the evaluation metric. I deployed the final product as a web application using Flask and Heroku.

Clasification of bearing failures using noisy signals Jan. - June. 2018

Worked with Dr. Alberto Coronado and other students in a detailed comparison of methods for evaluating the current health condition of bearings. We compared classical approaches as signal processing and machine learning models (Boosting, Neural Networks, SVM among others) and reported that while traditional methods

(e.g., envelope) successfully classified bearing failures less than 45 % of the time, machine learning methods were successful more than 62 % of the time, and in some cases reaching 67 %

OUTREACH & PROFESSIONAL ACTIVITIES

Volunteer - LXAI Workshop at CVPR 2021

Sponsorship & Finance Chair - LXAI Workshop at ICML 2021

REPU Seminar presentation 2021
Talked organized by Research Peruvian Undergraduates (REPU) in which students from different institutions around the world shared their research experiences in computer science.

My experience with machine learning competitions 2021
Talked given at the Electronic Visualization Laboratory - University of Illinois at Chicago

Cross Cultural Engagement Program - Penn State University and Inictel UNI 2019
Worked as a teaching assistant for a training program from the University of Pennsylvania hosted at the National Institute of Research and Training in Telecommunications (INICTEL - Peru). In this program, sponsored by the USA Embassy, we taught concepts of IoT and web applications to 15 students.

Volunteer for a soft skills workshop 2019
Environmental awareness workshop, dynamics for the development of soft skills and vocational talk.

Oral presenter at Universidad Nacional de Ingenieria 2019
Presented a summary of my experience as an exchange student at Furtwangen University - Germany.

TECHNICAL SKILLS

Programming:	C++, Python, SQL, HiveQL, MATLAB, Latex
Software:	Machine Learning Frameworks (Tensorflow, PyTorch, Pytorch - Lightning), OpenCV, Git, Docker

RELEVANT COURSES

Universidad Nacional de Ingenieria: Artificial intelligence, statistics and probability, linear algebra, multivariable calculus, digital image processing, numerical methods.

HFU University: Deep Learning, Internet of Things

Online courses: Neural networks, reinforcement learning, generative models, natural language processing, AI for Medicine (Coursera).

LANGUAGES

English (full professional development), German (Basic level) and Spanish (native).