William Berrios

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Github Personal Website

RESEARCH INTERESTS

My research interests lie in building robust and generalizable computer vision systems with minimal or no supervision. Specific areas of interest are representation learning, unsupervised learning, few-shot learning and robotics

EDUCATION

National University of Engineering, Peru Mar.14 - Dec.19
B.S. Mechatronics Engineering (Robotics)
Cumulative GPA: 3.82/4.0
Summa Cum Laude. Rank 1/46

Hochschule Furtwangen University, Germany. Sep.18 - Feb.19
International exchange program.
Courses: Deep Learning, Robotics, IoT, Control Systems

RESEARCH EXPERIENCE

Artificial Intelligence Fellow - Pi School May. 21 - June 21
Translated - Rome, Italy Mentor: Sébastien Bratières

- Increased the conversion rate of translation offers by implementing a request translation algorithm and NER system for detecting contact and bussiness information using transfomer models.
- Video Presentation

Research Intern Jan. 21 - Apr. 21
Electronic Visualization Laboratory, University of illinois at Chicago - USA Advisor: Elisabeta Marai

- Implemented and finetuned CNN arquitechures for classifyng images that appear on biomedical publications following a taxonomy propesed by biocurators partners.
- Developed a deep active learning framework to help curators efficiently label biomedical images that appear in scientific papers. Paper in progress.

Undergraduate Researcher in Robotics & AI Jan 18 - Aug. 19
Intelligent Systems Lab, Lima, Peru Advisor: Alberto Coronado

- Developed a comparison of traditional and machine learning methods for evaluating the health condition of bearings presented in mechanical systems
- Implemented a prototype of an autonomous mobile robot for parking surveillance using path planning and an object detection algorithm for recognizing license plates.

INDUSTRY EXPERIENCE

Data Science Intern Sep 19 - Dec 20
Pichincha Bank, Lima - Peru

- Increased productivity of bussiness areas by implementing 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, Machine Learning and MLops.

AWARDS & HONORS

AWARDS

Honored by the Ministry of Education - Peru 2021
In recognition for outstanding participations at international machine learning competitions.

Accepted at MLSS and LxMLS summer schools 2021
Accepted as poster presenter at EEML Summer School 2021
Poster Presentation

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

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

Baden - Württemberg Scholarship 2018
Awarded $7500 to study at HFU in Germany as an exchange student.

Eduardo de Habich Prize 2017
Highest honor given to undergraduates at National University of Engineering.

1st place at National University of Engineering Entrance Exam 2014
Best engineering school in Peru (< 10 % acceptance rate).

COMPETITIONS

1st Place at BCI Machine Learning Competition 2021
Rank 1/400 participants (15+ countries). Organized by BCI Bank. Awarded by $3600

Silver Medal at Ventilator Pressure Prediction 2021
Rank 122/2605 participants aroung the world (Top 5 %). Organized by Google Brain and Kaggle.

1st Place at WIDS Bay Area Datathon 2021
Organized by WIDS (Standford) and Google Cloud team

1st Place at BNP Machine Learning Competition 2021
Rank 1/100 participants. Organized by BNP Paribas Cardiff and Domino DataLab.

2nd Place at International Interbank Datathon 2021
Rank 2/229 participants - LATAM. Organized by Interbank - Peru. Awarded by $6000 dollars.

1st Place at BanColombia Datathon 2021
Rank 1/80 teams - LATAM. Organized by Group BanColombia. Awarded by $2000 dollars.

Finalist at the ERC space and robotics competition 2020
Part of the Robotics and AI team from KAMAYUC. Organized by European Rover Challenge.

SERVICE

ACADEMIC

Organizer and Sponsorship Chair 2021
LatinX in AI Workshop at @ ICML'21

Moderator and Technical Support 2021
LatinX in AI Workshop at @ CVPR'21

COMMUNITY & SOCIAL

Organizer and Moderator - *REPU CS Day* 2021
Set of talks in which graduate students, postdocs and professors from UIC, Oxford, Purdue, MIT and other institutions shared their research in computer science.

Speaker - *Pontificie Universidad Catolica del Peru* 2021
Talked about how machine Learning competitions served as a source of Artificial Intelligence learning

Teaching Assistant - *Cross Cultural Engagement Program with Penn State* 2019
Training program in IoT and web applications aimed at 15 students from Penn State University. Organized by National University of Engineering with the support of the United States Embassy.

SELECTED PROJECTS

Deep Active Learning Segmentation of Defaults in Steel Surfaces Aug.21 - *In Progress*
- Evaluation of uncertainty sampling algorithms for efficient labeling of segmentation mask on steel defects images.
- Mentor: Phd. Paul Cardenas

Automatic review of reports for the Telecommunications industry 2021
- Implemented an OCR model for verifying the date of reports and a CNN classification model for detecting the presence of signatures. Code

Prediction of children's bone age from a Brazilian hospital 2020

- Fine-tuned CNN architectures on X-rays images in combination with tabular features from patients.
- Deployed the final product as a web application using Flask and Heroku. Code

TECHNICAL SKILLS

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

RELEVANT COURSES

National University of Engineering: Artificial intelligence, statistics and probability, linear algebra, multivariable calculus, digital image processing, numerical methods.

HFU University: Deep Learning, Internet of Things