William Berrios

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Github   Personal Website   Google Scholar

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

Research Intern   Jan. 22 - Present
Center for Brains, Minds and Machines, Massachusetts Institute of Technology , USA   Advisor: Arturo Deza

· Working with PostDoc Arturo Deza examining the potential of Visual Transformers and adversarial training on the modeling of the ventral stream processing

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 Neural Entity Recognition (NER) system for detecting contact and business information using transformer 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 architectures for classifying images that appear on biomedical publications following a taxonomy proposed by bio-curators partners.
· Developed a deep active learning framework to help curators efficiently label biomedical images that appear in scientific papers.

Undergraduate Researcher in Robotics & AI   Jan 18 - Aug. 18
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.

PUBLICATIONS

PEER REVIEWED

Joint rotational invariance and adversarial training of a dual-stream Transformer yields state of the art Brain-Score for Area V4
Brain-Score Workshop @ Cosyne 2022
William Berrios, Arturo Deza

UNDER REVIEW

BI-LAVA: Biocuration Image Labeling through Active Learning and Visual Analysis
Under Review @ IEEE VIS 2022
Juan Trelles, **William Berrios**, Hagit Shatkay and G.Elisabeta Marai

AWARDS & HONORS

AWARDS ....

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

Accepted as a poster presenter at EEML Summer School 2021
⧉ Poster Presentation

Dean's list for Mechatronics Engineering at National University of Engineering 2019
Baden - Württemberg Scholarship 2018
Awarded $7500 to study at Hochschule Furtwangen University 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).

ACADEMIC & DATA SCIENCE COMPETITIONS

2nd Place at Brain-Score Competition 2022
Organized by Brain-Score Team and sponsored by MIT Quest for Intelligence, C-BRIC and MIT-IBM Watson AI Lab.

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

Silver Medal at Ventilator Pressure Prediction 2021
Rank 122/2605 participants around 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 Cardif and Domino DataLab.

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

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

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

SERVICE

TALKS

Joint rotational invariance and adversarial training of a dual-stream Transformer yields state of the art Brain-Score for Area V4 2022
Invited talk at the Poggio Lab @ MIT

ACADEMIC

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

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

COMMUNITY & SOCIAL

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

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.

TECHNICAL SKILLS

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

SELECTED PROJECTS

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

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