

William Berrios

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🐙 Github 🌐 Personal Website 🎓 Google Scholar

EDUCATION

- National University of Engineering**, Peru Oct. 21
B.S. Mechatronics Engineering (Robotics)
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

- Predocctoral Fatima Fellow** June 22 - Present
Hugging Face - Remote Advisor: [Douwe Kiela](#), [Amanpreet Singh](#)
- Working on a multimodal project for evaluating the potential of LLM on solving Vision and Vision & Language tasks given visual clues.
- Research Intern** Jan. 22 - August 22
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
Workshop on Attention and Transformers in Vision - CVPR 2022 | Under Review at ICLR 2023
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

- Fatima Fellowship** 2022
Selected from 700 applicants to work on a research project on multimodal learning under the advice of [Douwe Kiela](#) & [Amanpreet Singh](#)
- 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 Baden - Württemberg Scholarship** 2019
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 (Stanford) 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

- Reviewer** 2021
SVRHM Workshop at @ Neurips'22
- Organizer and Sponsorship Chair** 2021
LatinX in AI Workshop at @ ICML'21
- Technical Support** 2021
LatinX in AI Workshop at @ CVPR'21

TECHNICAL SKILLS

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

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.

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