

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, generative modeling, few-shot learning, adversarial robustness 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

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.

INDUSTRY EXPERIENCE

Data Scientist

Sep 19 - Dec 20

Pichincha Bank, Lima - Peru

- Increased productivity of business 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.

PUBLICATIONS

PRE-PRINTS

[1] **Joint rotational invariance and adversarial training of a dual-stream Transformer yields state of the art Brain-Score for Area V4**

William Berrios, Arturo Deza

Under Review, 2022

AWARDS & HONORS

AWARDS	
Honored by the Ministry of Education - Peru	2021
In recognition for outstanding participation at international machine learning competitions.	
Accepted at MLSS and LxMLS summer schools	2021
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).	
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.	
2nd Place at Brewing Data Cup	2020
Rank 2/40 teams - LATAM. Organized by AB InBev corporation.	
Finalist at the ERC space and robotics competition	2020
Member of the Robotics and AI team from KAMAYUC. Organized by European Rover Challenge.	
SERVICE	
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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.	

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](#)

TECHNICAL SKILLS

Programming: C++, Python, SQL, HiveQL, MATLAB, Latex
Software: Machine Learning Frameworks (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