

William Berrios

✉ wberriosr@uni.pe, wiliam@contextual.ai

🐙 Github 🎓 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

Research Intern

Jan 22 - Aug 22

Center for Brains, Minds and Machines, MIT - Remote

Advisor: [Arturo Deza](#)

- Worked with PostDoc Arturo Deza examining the potential of Visual Transformers and adversarial training on the modeling of the ventral stream processing.

Research Intern

Jan 21 - Apr 21

Electronic Visualization Laboratory, UIC - Remote

Advisor: [Elisabeta Marai](#)

- Finetuned CNN architectures for classifying images that appear in 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.

PROFESSIONAL EXPERIENCE

Research Engineer

Apr 23 - Present

Contextual AI, USA

Supervisor: [Douwe Kiela](#) & [Amanpreet Singh](#)

- Conducted comprehensive benchmarking of GPU ecosystems across major cloud providers including AWS, GCP, and LambdaLabs to optimize cost-performance ratios for AI workloads .
- Evaluated ContextualAI Large Language Models on advanced reasoning tasks, measuring performance in commonsense reasoning, world knowledge retrieval, and mathematical problem-solving
- Led research investigating LLMs' capabilities in solving Vision and Vision-Language tasks using visual context without requiring additional multimodal pretraining
- Developed state-of-the-art internal Contextual AI language models with enhanced factual grounding, improving accuracy and reliability for customer applications.

Junior Research Scientist

Jan 23 - Mar 23

Artificio, USA - Remote

Supervisor: [Arturo Deza](#)

- Developed a brain-aligned transformer model, serving as the core search engine for identifying similar artworks
- Contributed to the Machine Learning pipeline as a key team member in the development of the Artwork Search Engine product, ensuring seamless data processing and model integration.

Data Scientist

May 22 - Dec 22

Rimac Seguros, Peru

- Designed and implemented a recommendation system model to enhance cross-selling of insurance products by suggesting the most suitable options to customers.
- Designed and deployed a machine-learning solution to accurately estimate insurance product prices, optimizing pricing strategies for enhanced competitiveness and profitability.

Banco Pichincha, 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

LMUnit: Fine-grained Evaluation with Natural Language Unit Tests

Jon Saad-Falcon*, Rajan Vivek*, **William Berrios***, Matija Franklin, Bertie Vidgen, Amanpreet Singh, Douwe Kiela
In review @ EMNLP - 2025

[\[Paper\]](#) [\[Blog\]](#)

BI-LAVA: Biocuration Image Labeling through Active Learning and Visual Analysis

Juan Trelles, Andrew Wentzel, **William Berrios**, Hagit Shatkay and G. Elisabeta Marai

Accepted @ Computer Graphics Forum Journal - 2025

[\[Paper\]](#)

Leveraging Diffusion Perturbations for Measuring Fairness in Computer Vision

Nicholas Lui, Bryan Chia, **William Berrios**, Candace Ross, Douwe Kiela

Accepted @ AAAI - 2024

[\[Paper\]](#) [\[Dataset\]](#)

Towards Language Models That Can See: Computer Vision Through the LENS of Natural Language

William Berrios, Gautam Mittal, Tristan Thrush, Douwe Kiela, Amanpreet Singh

ArXiv 2023

[\[Paper\]](#) [\[Code\]](#) [\[Blog\]](#)

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

Accepted @ LXAI (oral presentation) - Neurips 2022, T4V - CVPR 2022

[\[Paper\]](#) [\[Code\]](#)

AWARDS

1st Place BBVA Data Challenge

2023

- Rank 1/500. Organized by BBVA. Awarded \$3000.

2nd Place at Brain-Score Competition

2022

- Rank 2/21. Organized by MIT Intelligence Quest and MIT IBM Watson AI Lab. Awarded \$1250.

Honored by the Ministry of Education - Peru

2021

- Interview (in Spanish) in recognition of outstanding participation in international machine learning competitions.

2nd Place at International Interbank Datathon

2021

- Rank 2/232. Organized by Interbank - Peru. Awarded by \$6000 dollars.

1st Place at BNP Machine Learning Competition

2021

- Rank 1/100. Organized by BNP Paribas Cardif and Domino DataLab.

1st Place at International BCI Machine Learning Competition

2021

- Rank 1/400 (15+ countries). Organized by BCI Bank - Chile. Awarded by \$3600.

1st Place at International BanColombia Datathon

2021

- Rank 1/80. Organized by Group BanColombia - Colombia. Awarded \$2000.

Silver Medal at Ventilator Pressure Prediction

2021

- Rank 122/2605 🥈 (Top 5 %). Organized by Google Brain & Kaggle.

1st Place at WIDS Bay Area Datathon

2021

- Organized by WIDS - Stanford and Google Cloud team.

2nd Place at Brewing Data Cup

2020

- Rank 2/40. Organized by AB-InBev corporation.

INVITED ACADEMIC REVIEWING

Neural Information Processing Systems (NeurIPS)	2022, 2023
International Conference on Learning Representations (ICLR)	2024, 2025
Conference on Language Models (COLM)	2024, 2025
Empirical Methods in Natural Language Processing (EMNLP)	2025

TALKS

Retrieval Augmented Systems in 2025. Maristas College - USA	2025
Language Models Enhanced to See. ML Pinterest Lab - USA	2023
Towards Language Models That Can See. Deza Lab @ UTEC - Peru	2023
State of the art Brain-Score for Area V4. LXAI, NeurIPS - USA	2022
Brain-Aligned Vision Transformers. Poggio Lab @ MIT - USA	2022