

Errol W. Mamani

PROSPECTIVE PH.D. STUDENT · ML ENGINEER

m-19, av. Javier L. Pizarro, Cerro-Colorado, Arequipa, 04000, PERU

☎ (+51) 960-109-035 | ✉ errol.mamani@ucsp.com | 🏠 wild10.github.io | 📷 wild10 | 🌐 ewilderd

Education

UCSP (San Pablo Catholic University)

M.Sc. IN COMPUTER SCIENCE

Arequipa, Peru

Mar. 2018 - Aug. 2020

- Minor in Computer Vision and Natural Language Processing. GPA: 3.2
- **Thesis:** Spanish Offensive Language Detection using Deep Learning approaches.

UNSAAC (The National University of Saint Anthony the Abbot in Cusco)

B.S. IN INFORMATION AND SYSTEMS ENGINEERING

Cusco, Peru

Mar. 2009 - Aug. 2016

- **Ranked 3rd in graduating class**, with an overall grade of 12.9/20 scale (equivalent to top 5 % of students).
- **Thesis:** Speaker Identification Using MEL Frequency Cepstral Coefficients and Hidden Markov Modelling.

Research Experience

RICS(Research and Innovation Center in Computer Science).

RESEARCH ASSISTANT

Arequipa, Peru

Nov. 2020 - Oct. 2021

- Implemented and fine-tuned deep learning models using PyTorch for NLP tasks, conducting dataset analysis, visualization, and model evaluation in Python and Docker environments.
- Authored research papers and project reports, preparing presentations for conferences while promoting research findings online.
- Collaborated with research teams to communicate progress, sharing insights and updates, and traveled to present research at conferences.

LXAI(Latinx in Artificial Intelligence) at NAACL.

WORKSHOP ORGANIZER & CO-CHAIR

Online, San Francisco

Jan. 2024 - July. 2024

- Led the organization and coordination of the NLP workshop, including event planning, logistics, and participant engagement.
- Managed social media promotion to boost workshop visibility, leveraging online platforms to drive audience participation and awareness.
- Collaborated with the organizing team to streamline the program, ensuring smooth execution and a high-quality experience for attendees.

Honors & Awards

RESEARCH

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| 2024 | Scholarship , for NAACL Conference Attendance, and LxNLP workshop | Mexico-city, Mexico |
| 2022 | Scholarship , for virtual NAACL Conferences Attendance, LxNLP workshop and NLP Summer School. | Virtual, U.S.A |
| 2020 | Scholarship , for virtual Conference Attendance: NeurIPS | Virtual |
| 2019 | Travel Award , for attending and poster presentation at LxAI workshop at NeurIPS | Vancouver, Canada |
| 2019 | Student Travel Award , for Poster Presentation, Khipu LATAM AI Meeting | Uruguay |

COMPUTER SCIENCE

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|------|---|-----------------|
| 2018 | Scholarship , for Master's Program in Computer Science. | Arequipa, Peru |
| 2013 | Top 23 Finalist , ICPC South America/South Finals (regional-online) | Arequipa, Peru |
| 2013 | Travel Award , ICPC programming camp: Higher University of San Andrés | La Paz, Bolivia |
| 2012 | Educational Grant , Competitive Programming camp: National University of Engineering | Lima, Peru |

Publications & Presentations

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| 1 | [Article] , Errol Mamani-Condori, and José Ochoa-Luna, "Aggressive language detection using vgcnn-bert for spanish texts". <i>Brazilian Conference on Intelligent Systems BRACIS</i> (2021) | [Article], [Slides] |
| 2 | [Poster] , Errol Mamani-Condori, and José Ochoa-Luna "Aggressive language identification in social Media using Deep learning". <i>Latin American Meeting In Artificial Intelligence</i> , KHIPU(2019) | [Poster] |
| 3 | [Poster] , Errol Mamani-Condori, and José Ochoa-Luna,"Aggressive Spanish language identification in social Media using BERT". <i>Neural Information Processing Systems,NeurIPS</i> (2019) | [Poster] |
| 4 | [Thesis] , Errol W. Mamani, and Auccapuma G.Jhon. "Identificación de locutor usando codebooks de coeficientes cepstrales en las frecuencias de Mel y modelos ocultos de Markov". | [Abstract(ES)] |

Teaching Experience

Python Teacher

WIDSRP

WOMEN IN DATA SCIENCE RESEARCH PERU

Sep. 2022 - Dec. 2022

- Conducted a Python fundamentals course for beginners, covering core programming concepts such as loops, conditionals, data structures (lists, arrays, strings), and object-oriented programming.
- Developed and delivered beginner Python lessons on programming fundamentals, enhancing participants' coding skills and adapting teaching methods to diverse learning needs.

Teaching Assistant

uGlobal

GLOBAL UNIVERSITY OF CUSCO

Mar. 2017 - Dec. 2017

- Taught foundational mathematics, including arithmetic, algebra, and mathematical reasoning, in a preparatory course designed for management, accounting, and economics students at a private university.
- Collaborated with faculty to develop new curricula tailored to IT engineering, accounting, and economics programs, ensuring alignment with each major's academic requirements.
- Developed innovative educational materials for instruction and assessment, enhancing student engagement and supporting effective learning outcomes.

Teaching Assistant

C4AI

NATIONAL UNIVERSITY OF SAINT ANTHONY THE ABBOT IN CUSCO

Jun. 2015 - Apr. 2016

- Assisted professors in delivering the Analysis and Design of Algorithms course, providing support in lectures and course planning.
- Reviewed assignments and provided additional guidance to students, helping clarify course material and enhancing their understanding.
- Collaborated with fellow TAs on departmental initiatives, contributing to a cohesive and supportive academic environment.

Industry Experience

Ping4All.

Esch-sur-Alzette, Luxembourg

COMPUTER VISION ENGINEER

Nov. 2022 - Oct. 2024

- Optimized real-time object detection models for fast-moving targets using OpenCV and mathematical libraries, enhancing performance on video data.
- Integrated C++ and Python models into a unified pipeline using PyBind11 and OpenCV, improving flexibility and compatibility for production.
- Developed and deployed detection models in a Dockerized pipeline with PyTorch and TensorFlow on dedicated servers, enabling scalable, high-performance video analysis.

FreeLance.

Remote

COMPUTER VISION DEVELOPER

Jan. 2020 - May. 2020

- Developed an experimental proposal, trained and tested the LSTM model, and deployed a demo showcasing automatic text generation, accompanied by a final project report.
- Created labeled datasets for meter display and digit recognition with CVAT and fine-tuned YOLO and SSD models for accurate Electric Meter Reading.
- Developed a scalable Flask endpoint for model deployment, streamlining production and enabling efficient maintenance.

FreeLance

Remote

NATURAL LANGUAGE PROCESSING DEVELOPER & CONSULTANT

Sep. 2019 - Nov. 2019

- Proposed and implemented a novel approach for Quechua text generation using Bidirectional LSTM models, creating a pioneering resource for indigenous language processing.
- Collected and curated a Quechua text dataset using OCR tools (e.g. Google Lens) and conducted comprehensive text analysis and visualization to support model training.
- Developed an experimental proposal, trained and tested the LSTM model, and deployed a demo showcasing automatic text generation, accompanied by a final project report.

Freelance

Remote

NATURAL LANGUAGE PROCESSING ENGINEER & CONSULTANT

Jul. 2018 - Sep. 2018

- Implemented speaker identification using advanced machine learning models, including SVM, GMM, and HMM, tailored to our custom dataset to accurately detect individuals by voice.
- Designed, trained, and tested multiple model architectures with Python, leveraging scipy, numpy, and sklearn for optimized performance and prediction accuracy.
- Authored a proposal outlining model selection and development, and deployed a functional demo showcasing key capabilities.

Ronderdo startup

Cusco, Peru

FRONTEND DEVELOPER REACTJS

Aug. 2017 - Dec. 2017

- Developed responsive front-end components in React Native with real-time updates, map integrations, and dynamic crime reporting using Google Maps API.
- Designed interactive data visualizations (pie charts, histograms, etc.) using JavaScript and React, alongside Material UI for website styling, and managed JSON data conversions to ensure real-time synchronization with Django backend endpoints.
- Collaborated with backend developers to implement server-side functions, optimizing React Native interactions for data integrity and performance.

DOA Holding S.A.

Cusco, Peru

REACT DEVELOPER INTERN

Dec. 2016 - Apr. 2017

- Designed and implemented a user-friendly interface with Material UI to enhance visual consistency and usability for the app and website.
- Developed responsive web and mobile applications using React and JavaScript, creating an intuitive and accessible frontend for users across devices.
- Built backend prototype connections using Ruby-based code to enable seamless data integration and real-time interaction between client applications and server resources.

Engineering College of Peru

Cusco, Peru

IT MANAGER & TECHNICAL SERVICES

May. 2016 - Oct. 2016

- Developed new functionalities to automate administrative tasks and engineer registration processes, enhancing system efficiency and accuracy.
- Oversaw maintenance and operational control of integrated ERP systems to ensure seamless functionality across departments.
- Provided comprehensive training and technical support for various computer systems, improving user competency and troubleshooting efficiency

Volunteering

2024 **Spanish Language Ambassador**, Cohere Aya AI

Remote

2024 **Organizer & Public Relation Co-Chair**, Latinx in AI workshop at NAACL

Mexico-city, Mexico

2022 **Organizer & Co-Chair**, Latinx in AI workshop at NAACL

Seattle, U.S.A

Skills

- **Programming:** +4 years in python, +3 years c++, c.
- **ML & Visualization:** Pytorch, SKlearn, tensorflow, Numpy, Opencv, AWS, HPC.
- **Computational:** fine-tuning, transformers, LLMs, CNN, LSTM, DL Algorithms.

References

• **Jose Ochoa L**, CS Professor , UCSP| Thesis advisor.

• **Hugo A.**, Ping4all| CTO Manager

• **Lauro E. Rodas**, CS Professor , UNSAAC| Programming Mentor.

• **Harley L**, CS Professor , UNSAAC| Research Mentor.