Errol W. Mamani

PROSPECTIVE PH.D. STUDENT. · ML ENGINEER

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Education

UCSP (San Pablo Catholic University)   *Arequipa, Peru*

M.SC. IN COMPUTER SCIENCE   *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)   *Cusco, Peru*

B.S. IN INFORMATION AND SYSTEMS ENGINEERING   *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).   *Arequipa, Peru*

RESEARCH ASSISTANT   *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.   *Online, San Francisco*

WORKSHOP ORGANIZER & CO-CHAIR   *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

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

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

1	**[Article]**, **Errol Mamani-Condori**, and José Ochoa-Luna, "Aggressive language detection using vgcn-bert for spanish texts". *Brazilian Conference on Intelligent Systems* BRACIS(2021)	*[Article], [Slides]*
2	**[Poster]**, **Errol Mamani-Condori**, and José Ochoa-Luna "Aggressive language identification in social Media using Deep learning". *Latin American Meeting In Artificial Intelligence*, KHIPU(2019)	*[Poster]*
3	**[Poster]**, **Errol Mamani-Condori**, and José Ochoa-Luna,"Aggressive Spanish language identification in social Media using BERT". *Neural Information Processing Systems*,NeurIPS(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
Women in Data Science Research Peru

WiDSRP

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 Assisstant
Global University of Cusco

uGlobal

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 Assisstant
National University of Saint Anthony the Abbot in Cusco

C4AI

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

Crown.
AI Engineer

Remote

Jan. 2025

- Developed a computer vision pipeline for face recognition, people counting, and movement tracking, delivering actionable visual insights using Python and machine learning.
- Built a retail-expert chatbot using Retrieval-Augmented Generation (RAG), agents, and LLMs, enabling fast, accurate, and personalized responses from a connected database.

UpWork.
AI Engineer

Remote

Oct. 2024 - Dec.2024

- Developed and deployed a chat history summarization system using LLaMA 2,fine-tuned with Parameter-Efficient Tuning(PEfT) and enhanced through prompt engineering (few-shot) and deployed the solution via endpoint.

Ping4All.
Computer Vision Engineer

Esch-sur-Alzette, Luxembourg

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.
Computer Vision Developer

Remote

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
Natural Language Processing Developer & consultant

Remote

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
Natural Language Processing Engineer & Consultant

Remote

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-tunning, transformers, LLMs, CNN, LSTM, DL Algorithms.

References

- **Jose Ochoa L,** CS Professor , UCSP| Thesis advisor.
- **Lauro E. Rodas,** CS Professor , UNSAAC| Programming Mentor.
- **Hugo A.,** Ping4all| CTO Manager
- **Harley L,** CS Professor , UNSAAC| Research Mentor.