

OBJECTIVE

I am seeking to obtain a postgraduate degree in a very well recognized program. During my postgraduate years I would like to contribute to the scientific community with the research I would perform. I aim to put in practice my problem solving, analytical thinking and leadership skills to use in a very competitive lab for the integration of AI & microfluidics.

EDUCATION

National University of Engineering (UNI)
Bachelor of Engineering (Hons.) in Physics (GPA: 4/5)

Lima, Perú
Mar '15 - Dec '19

EXPERIENCE

Data Glacier
Data Science Internship

Virtual
Feb '22 - May '22

- Development and implementation of machine learning models with Flask and Heroku.
- Introduction to big data processing with PySpark and Dask.
- Total development of the "Healthcare - Persistency of a drug" project, from data processing and implementation of models for classification.

Universidad Nacional de Ingeniería-UNI
Research Assistant

Lima, Perú
Sep '20 - Ongoing

- I am a research assistant in laboratory of **PhD. German Comina**.
- The work consists in study the physics of microfluidics.
- Design and print 3D elements in resine.
- Development control system for microfluidics.
- Development code in OpenFOAM free software for mixing fluids.

Universidad de Ingeniería y Tecnología-UTEC
Teaching Assistant

Lima, Perú
Mar '20 - Dec '21

- I was a teacher's assistant in Vector Calculus & Differential Equations course and previously in the Dynamics course.
- I implemented a Dashboard to evaluate the performance of the students, the data was also extracted and statistical models were formulated in Python in order to organize the classes, the consultancies and the continuous improvement.
- I asked new questions for the exams based on the Bloom scale, taking into account the applications in the real world. Also, thanks to the course, the university acquired a platform for the grading and automation of exams.

Universidad de Ingeniería y Tecnología-UTEC
Research Assistant

Lima, Perú
Sep '19 - Dec '19

- I was a research assistant in the microfluidics area. The project is about micromanipulation by convective flows.
- Calibrate the opto-mechanical system.
- Design and print 3D elements.
- Simulate the thermocapillary phenomenon using COMSOL.

PROJECT HIGHLIGHTS

Healthcare - Persistency of a drug

Apr '22

- Data Science Internship Final Project. [CODE]

Waves and Radiation Course Projects

Aug '21 - Dec '21

- Design and Simulation of Band-pass Filter 10GHz. [REPORT]
- Design and Simulation of Dual Branch line Hybrid Coupled of 10GHz. [REPORT]

Forecasting Solar Radiation using a Long-Term Neural Network in Lima

Jan '21 - Mar '21

- Oral Presentation. Presented at 'Jornada Peruana de Energía Solar 2021' (JOPES). This research shows a kind of recurrent neural network for predict the movement of solar radiation along the time. [Proceeding] [CODE]

Identifier of red blood cells in lysis

Mar '19 - Aug '19

- The work consists of training a neural network with patterns of red blood cells, to be able to count their decay in lysis.
- This leads to identifying if a person may suffer from anemia.
- In addition, take it to an internal contest at the National University of Engineering. [CODE]

COURSEWORK/SKILLS

- **Programming:** Python, MATLAB, LaTeX, SQL, PyTorch, TensorFlow, Scikit-learn, OpenFOAM, Arduino.
- **Coursera:** Fundamentals of Fluid-Solid Interactions, Simulation and modeling of natural processes, Quantum Computing, Machine Learning, Image Processing and Deep Learning.
- **Postgraduate Courses:** Introduction to Stochastic Process, Waves and Radiation, Introduction to Deep Learning.

LEADERSHIP AND HONORS

- 1st Summer School Physical Eng **Organizer/Instructor** I am an organizer and instructor in the summer school, focused on artificial intelligence and physics. **[WEB]** Feb '22
- Numerical Analysis of the Design of Passive Micro-mixers through Finite Volumes **1st Place at Branch2** Presented at 'The International Peruvian Day of Research in Engineering and Sciences' (JP3IC). **[Poster]** Apr '21
- Physics Engineering Undergraduate Students Association **Founder** I created a group for the diffusion and learning of the school of physical engineering. **[FB] [IG] [YT] [GH]** Nov '20 - Ongoing
- Identifier of red blood cells in lysis **1st Place** Presented at the physical engineering fair in competition with all the end-of-degree projects. Dec '19
- Inter-university Network of Sciences **Founder** Is a network of undergraduate and graduate students in basic sciences. The main objective is to decentralize science in Perú. **[WEB]** Jul '19 - Ongoing
- TedX UNI 2019 **Organizer** TedXUNI is an event (non-profit) that seeks to transmit ideas of social and scientific impact. Jul '19 - Nov '19