

# JHAIR GALLARDO

Imaging Science PhD Student @ RIT

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## RESEARCH INTERESTS

Self-Supervised Learning

Continual Learning

Computer Vision

Deep Learning

## EXPERIENCE

Data Scientist

Everis

May 2018 – July 2019

Lima, Peru

- Developed a vehicle damage intensity classifier using a deep convolutional neural network with 70 percent of accuracy. Deployed the system using Docker and flask for an insurance company.
- Implemented a recommendation system with implicit feedback based on neural networks and collaborative filtering for 1.5 million of clients and +150K of items.
- Developed a real-time cosmetic product classification app for mobile devices by training a convolutional neural network (MobileNet) with 96 percent of accuracy.
- Developed an audio emotion classifier with 70 percent of accuracy by training a deep convolutional neural network on spectrograms.

Technologies used: Pytorch, Keras, TensorFlow Lite, Python, OpenCV, Librosa, Docker, PySpark, DVC, Git, GitHub

Machine Learning Research Intern

Siemens Healthineers

April 2017 – March 2018

Malvern, Pennsylvania

- Improved previous system on lung nodule classification by developing a 3D convolutional neural network that processes 3D CT scan data directly, instead of processing 2D data. My system got 90 percent of sensitivity with 1.45 false positives per patient, reducing the false positive rate by 2x compared with the previous system.
- Developed a labeling tool for lung nodule images in order to decrease labeling time and get more labeled training data.
- Summarized and presented in reading groups current machine learning state-of-the-art works

Technologies used: Caffe, Python, SimpleITK, Tkinter, CT scan data

Research Assistant

Universidad Nacional de Ingeniería (UNI)

July 2016 – March 2017

Lima, Peru

- Trained a convolutional neural network to predict Diabetic Retinopathy cases from digital retina images with 83 percent of accuracy.
- The results were presented at International Conference on Artificial Neural Networks (ICANN 2017) held in Italy.

Technologies used: Keras, Python, OpenCV

## EDUCATION

Ph.D. in Imaging Science

Rochester Institute of Technology (RIT)

August 2019 – May 2024

Rochester, New York

- Main Topics: Self-Supervised Learning and Continual Learning
- Relevant course work: Deep Learning for Vision, Human Visual System, Image Processing and Computer vision.

B.Sc. in Mechatronics Engineering

Universidad Nacional de Ingeniería (UNI)

March 2011 – December 2015

Lima, Peru

- Relevant course work: Machine Learning, Image Processing, Object Oriented Programming (C++), Research Methodology

## TECHNICAL SKILLS

- Deep Learning Frameworks:** Pytorch, TensorFlow, Keras
- Scientific Computing Packages:** Numpy, Scipy, Scikit-learn, Pandas
- Programming:** Python
- Applications:** Git, Bash Scripting, LATEX, Docker

## LANGUAGES

English

Spanish



## PUBLICATIONS

- J. Gallardo, T.L. Hayes, C. Kanan. **Self-supervised training enhances online continual learning.** In: British Machine Vision Conference (BMVC), 2021
- G. García, J. Gallardo, A. Mauricio, J. López, C. Del Carpio. **Detection of diabetic retinopathy based on a convolutional neural network using retinal fundus images.** In: Artificial Neural Networks and Machine Learning (ICANN), 2017