Evelyn Gutiérrez

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Schedule a meeting

EDUCATION

University of Orleans - PRISME Laboratoire, Orléans, France
Pontifical Catholic University of Peru - Laboratory of Medical Images, Lima, Peru *Sep. 2020 – Mar. 2023*
PhD student - International Dual Degree

Thesis: *Chronic wound monitoring based on thermal and color images from a portable device.*

Pontifical Catholic University of Peru (PUCP) ***Lima, Peru*** *Mar. 2015 – Dec. 2016*
Master in Statistics

Thesis: *Estimation of the disease prevalence when diagnostic tests are subject to classification error: Bayesian Approach.*
Dissertation result: outstanding.

National University of Engineering (UNI) ***Lima, Peru*** *Mar. 2006 – Mar. 2011*
Bachelor of Science in Statistical Engineering

Placement: First Place

PROFESSIONAL EXPERIENCE

LenddoEFL | ***Data Scientist, Credit Risk Modeling Specialist*** *Mar. 2015 – Oct. 2018*

- Credit scoring modeling with alternative data.
- Feature engineering in R and Python with psychometric, survey metadata, geolocation and unstructured data sources: email, mobile and android data.
- Predictive modeling for credit scoring: Logistic Regression, Random Forest, GBM, NN, Ensembled modeling.
- Strategies to deal with unbalanced data: oversampling, synthetic data generation.
- Model evaluation and strategic approaches to achieve stability of model performance over time.

Software: R, Python, SQL, PostgreSQL, MongoDB, AWS, IBM Watson

Business Analytics | ***Consulting GeoIntelligence Analyst*** *Jan. 2014 – Mar. 2015*

- Data analysis with geographical information (GIS) for Marketing, Business Intelligence and Data Mining.
- Classification of the vehicle fleet to identify Vehicle Insurance Market Potential.
- Site Selection to open Banking Agencies and Retail Stores.
- Description of the market and sales potential: Quantitative indicators and mapping: Trade Area HeatMaps.
- Income prediction and expense estimation, based on National Household Survey of Peru (ENAHO) and geolocation.
- Prediction of Sales, and Propensity to Churn.

Software: R, Azure ML, SQL, PostgreSQL, ArcGIS, QGIS

Entrepreneurial Finance Lab (EFL) | ***Credit Risk Analyst*** *Sep. 2011 – Dec. 2013*

- Descriptive data analysis, reporting, and automation for continuous model evaluation.
- Automation of data extraction, cleaning and feature engineering.

Software: Stata, R, VBA Excel

ACADEMIC EXPERIENCE

PRISME Laboratoire, Université d'Orléans | ***Doctorant*** *Aug. 2019 – Mar. 2020*

- Research on chronic wound monitoring; and algorithms for multimodal registration of thermal data and 3D models.
- Proposed and implemented a system for creating a 3D thermal model using portable and low-cost devices.
- Planning and execution of data acquisition for a longitudinal pilot study in France and Peru.
- Design and implementation of dashboards for tracking longitudinal data acquisition.
- Implementation of online visualization tools for interaction with thermal 3D models.

Software: R (Rmarkdown, thermimage, rgl, tidyverse) , Python (openCV, open3D, tensorflow, flirimageextractor)

Medical Image Laboratory, Pontifical Catholic University of Peru | ***Research Engineer*** *Aug. 2019 – Mar. 2020*

- Organization, planning, and managing execution of the ultrasound data acquisition protocol
- Development of proof-of-concept software for data analysis and visualization of ultrasound images.
- Support for statistical data analysis and paper writing.
- Research paper: Plantar Soft Tissue Characterization Using Reverberant Shear Wave Elastography

Software: Matlab, R.

Group of Mathematical and Statistical Modelling for Evaluation | ***Research Assistant*** *Oct. 2015 – Dec. 2016*

- Research on Bayesian methods for disease prevalence estimation using diagnostic test subject to error.
- Implementation of Bayesian models and simulations in R and C++.

TEACHING EXPERIENCE

Pontifical Catholic University of Peru (PUCP) | ***Lecturer*** *Aug. 2017 - Present*

- Undergraduate:
  (1IBM18) Biomedical Engineering Professional Development, (1EST12) Applied Statistics, (EST218) Statistics for Engineering, (EST103) Statistics for General Studies in Humanities, (EST145) Statistics for General Studies in Science, (1INF07) Numerical Experimentation
- Continuous Education:
  Forecasting, Regression and Time Series Techniques; Inference and applied Statistics using R; Basic statistical methods in R and SPSS.

National University of Engineering (UNI) | ***Instructor*** *2020 - 2022*

- Business Analytics Diploma Programme:
  R Markdown Workshop, Advanced Data Analysis: Data Balancing, Missing Data imputation and Dashboards.

PUBLICATIONS

Journals:

- 1. Naemi, R., Romero Gutierrez, S.E., Allan, D., Flores, G., Ormaechea, J., **Gutierrez, E.**, Casado-Pena, J., Anyosa-Zavaleta, S., Juarez, M., Casado, F., Castaneda Aphan, B.: *Diabetes Status is Associated With Plantar Soft Tissue Stiffness Measured Using Ultrasound Reverberant Shear Wave Elastography Approach.* J Diabetes Sci Technol. 16, 478–490 (2022). doi: 10.1177/1932296820965259.
- **Gutierrez, E.**, Castañeda, B., Treuillet, S., Hernandez, I.: *Multimodal and Multiview Wound Monitoring with Mobile Devices*. Photonics. 8, 424 (2021). doi: 10.3390/photonics8100424
- Niri, R. and **Gutierrez, E.** and Douzi, H. and Lucas, Y. and Treuillet, S. and Castaneda, B. and Hernandez, I., *Multi-View Data Augmentation to Improve Wound Segmentation on 3D Surface Model by Deep Learning*, in IEEE Access, vol. 9, pp. 157628-157638, (2021). doi: 10.1109/ACCESS.2021.3130784

Conferences:

- **Gutierrez, E.**, Castañeda B., Treuillet S., and Lucas Y. (February, 2021)*Combined thermal and color 3D model for wound evaluation from handheld devices*, Proc. SPIE 11601, Medical Imaging 2021: Imaging Informatics for Healthcare, Research, and Applications, 1160108 ; https://doi.org/10.1117/12.2580669
- **Gutierrez, E.**, Castañeda B., Treuillet S, (February, 2020) *Correction of Temperature Estimated from a Low-Cost Handheld Infrared Camera for Clinical Monitoring*, Advanced Concepts for Intelligent Vision Systems (Vol. 12002, pp. 108–116). Springer International Publishing. https://doi.org/10.1007/978-3-030-40605-9$_1$0
- **Gutierrez, E.** (August, 2019) *Estimation of the disease prevalence when diagnostic tests are subject to classification error: bayesian approach*, Latin American Bayesian Congress (COBAL), Lima-Peru

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VOLUNTEERING

RLadies Lima | ***Co-organizer*** *2018 - 2021*

- RLadies Lima is part of a worldwide organization to promote gender diversity in the R community. Our mission is to actively promote women's participation by organizing meetings (gatherings) in a friendly environment and collaborative space. We aspire to have more women programming, developing, teaching and creating R packages.

SKILLS

Data Science Tools: R, RStudio, Python, Azure ML, Stata, and SPSS.
Database Management: SQL, PostgreSQL, MongoDB.
Deep learning frameworks: Tensorflow, Keras, Pytorch.
Certifications:

- Neural Networks and Deep Learning | deeplearning.ai.
- AI for medical Diagnostics | deeplearning.ai.
- Managing as a coach | University of California, Davis.

Operating systems: Windows, Linux.

LANGUAGES

Spanish (native), English (professional working proficiency), and French (Upper Intermediate B2).

REFERENCES

To be presented upon request.