Martín **Vuelta**

Software Developer · Researcher

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Summary

Co-founder and Director of Development and Technology Research at SoftButterfly.

I like science and I am always looking for the best way to solve theoretical, experimental and technical problems through the application of computer science to achieve a better understanding of the world.

Experience

SoftButterfly
Lima, Peru

Co-founder and Director of Development and Technology Research
Feb. 2017 - PRESENT

- Quantum Variational Eigensolver for ground state energy determination in small molecules.
- Design and development of a system for the diagnosis, registration and monitoring of COVID-19 tests for the Repromedic clinic.
- Research and development of tools for the migration of dashboards from DataDog to New Relic and its use in New Relic One.
- Installation of New Relic APM and Infrastructure agents in conjunction with Atentus for Interbank systems.
- New Relic instrumentation in conjunction with Atentus for the Interbank BPI website in VueJs.
- New Relic implementation in conjunction with Atentus for Sura's internal management systems.
- Development of and *eLearning* platform with Django, Wagtail, Bootstrap and PostgreSQL.
- Development of a survey generator and alalysis system with Django, Django RestFramework, VueJS and PostgreSQL.
- Infrastructure implementation of internal SoftButterfly systems using various tools from the AWS stack.
- Research and development of meteorological stations using commodity hardware and a customized IoT system with Django, Django RestFramework, Bootstrap and PostgreSQL.
- Research for the development of a monitoring and recovery system for meteorological balloons.
- Research for the development of a mosquito characterization system by the frequency of its flutter.

National Service of Meteorology and Hydrology of Perú - Senamhi
Lima, Peru

External Fortran Consultant
Nov. 2017 - May. 2018

- Fortran Training
- Development of data analysis programs.

HackSpace Perú
Lima, Perú

Lead Trainer
Jan. 2015 - Dec. 2019

- Full stack web development coach at the PADT 2017 (High Technological Performance Program) in collaboration with the Ministry of Production of Peru.
- IoT coach of the CoreUpgrade 2017 face-to-face training.
- Backend development coach of the CoreUpgrade 2016 face-to-face training.

HackSpace Perú
Lima, Perú

Lead Software Developer
Mar. 2016 - PRESENTE

- Planning, design, development and implementation of the entire web infrastructure of HackSpace Peru.
- Implementation of e-Learning system for the CoreUpgrade 2017 annual training program.

Grupo RPP
Lima, Perú

Web Developer Freelance
Ago. 2017 - Sep. 2017

- Development of interactive web visualizations using GreenSock, D3JS and HighCharts.
    - Las cifras del caos.
    - El viaje de la papeleta..
    - Las victimas mortales.
    - Cinco años de tragedias.

DGT Digital
Lima, Perú

IT Security and Web Development Consultant with Python
Feb. 2017 - Mar. 2017

- Web development training backend with Python and Django.
- Computer Security Training following the OWAS Standard to improve the security of your computer systems.
- Training of use and configuration of Nginx and SSL.

UnionLabelNet
Lima, Perú

DYNAMICS NAV DEVELOPER
Dic. 2016 - Mar. 2017

- ERP system developer with Microsoft Dynamics NAV.
- Development of the VSCode C-AL plugin to improve the efficiency in Microsoft Dynamcis NAV C-AL programming.

HackSpace Perú
Lima, Perú

SOFTWARE DEVELOPER
Nov. 2015 - Nov. 2016

- Frontend development of HackSapce web services.
  - Promotional Website for Community Training 2015
  - Promotional Website for the CoreUpgrade 2016

National Aerospace Research and Development Commission - Peru Space Agency
Lima, Perú

RESEARCH ASSISTANT TRAINEE
Apr. 2014 - Dec. 2015

- Research on algorithms for solar activity forecasting.
- Development of meteorological monitoring systems.
- Automation calculation of ephemeris.

DJEngineering
Lima, Perú

SOFTWARE DEVELOPER
Jul. 2015 - Jul. 2016

- Support and development of features in backend and frontend of web systems.

Skills

Programming	Python, C, C++, C#, Fortran, Matlab, Mathematica, JavaScript, LaTeX, Java, Julia, Kotlin
Libraries	LAPACK, BLAS, Intel MKL, ILnumerics, OpenCV, Cuda, OpenGL, SFML
Hardware	Arduino, Raspberry Pi
Mobile	Android
Web	Wagtail, Django, Flask, Express, HTML5, CSS3, SASS, Gulp
Databases	MySql, MariaDB, PostgreSql, Redis, SQLite
Cloud	Amazon Web Services, Google Cloud Platform, IBM Bluemix
Languages	Español, Inglés

Studies

Universidad Nacional Mayor de San Marcos
Lima, Perú

B. S. EN FÍSICA
Mar. 2008 - PRESENT

- Participé de la

Cursos

Qiskit Global Summer School
Online, Global

IBM
Jul. 2020

- Certificate of Quantum Excellence

The SCOSTEP/ISWI ISSS
Lima, Perú

INSTITUTO GEOFÍSICO DEL PERÚ
Sep. 2014

Programación Científica con MatLab
Lima, Perú

LABORATORIO DE FÍSICA DE EVENTOS NATURALES
Ene. 2013

5th School of Cosmic Rays and Astrophysics
La Paz, Bolivia

UNIVERSIDAD MAYOR DE SAN ANDRÉS
Ago. 2012

CETQ-Fermilab School QCD and Electroweak phenomenology
Lima, Perú

PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ
Jul. 2012 - Ago. 2012

Ponencias

Basic security measures for servers
Universidad Privada del Norte, Lima, Perú

I Forum of Technologies and Entrepreneurship
Jun. 2017

- Practical guides for configuring security headers for web servers with emphasis on nginx.

Cellular Automata with Python
Universidad Privada del Norte, Lima, Perú

Code Day
May. 2017

- On how I deepened my interest in cellular automata after watching the video "I'm humanity" by Etsuko Yakusimaru. Practical examples of cellular automata made in Python.
- Github: `https://github.com/zodiacfireworks/code-day-2017--cellular-automata`

Jupyter Notebook: An Interactivo Programming Environment
Universidad Privada del Norte, Lima, Perú

Flisol Lima
May. 2017

- About the use of Jupyter notebook in teaching and in advanced real-work environments. Practical examples in mathematics and data analysis with Spark.
- Github: `https://github.com/zodiacfireworks/talk--jupyter-notebook`

Fedora, Python y Arduino
Puno, Perú

FUDCON: Fedora Users and Developers Conference
Oct. 2016

- On how to build a desktop application with Python and Qt for the collection of data from various sensors connected to an Arduino board.
- Github: `https://github.com/zodiacfireworks/arduino-serial-monitor`

High performance computing with Python
Universidad de Piura, Piura, Perú

XXIII INTERCON International Congress of Engineering, Electronics, Electrical and Computing
Ago. 2016

- Introductory workshop to high performance computing in Python.
- Github: `https://github.com/zodiacfireworks/talk--jupyter-notebook`

Algoritmos computacionales para el análisis de actividad solar.
Lima, Perú

Encuentro científico internacional
Jul. 2015

Solar cycle forecasting.
Cusco, Perú

X Conferencia Latinoamericana de Geofísica Espacial
Sep. 2014

Reconocimientos

2016	**6to Lugar**, II Programming Contest - IEEE Brain Coding 1.5	*Perú*
2015	**Reconocimiento**, For participation in the event " Creating, Innovating: Technological solutions for a more representative congress " organized by the Congress of the Republic of Peru	*Lima, Perú*
2014	**Microsoft Active Professional**, Microsoft	*Lima, Perú*