

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

- Development of an eLearning with Django, Wagtail, Django RestFramework, NextJS, React y PostgreSQL for the Ministry of Culture of Peru in collaboration with Crehana and HackSapce.
- 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.
- Development of an eCommerce with Django, Django RestFramework, VueJS and PostgreSQL for Quimder.
- 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 an eLearning platform with Django, Wagtail, Bootstrap and PostgreSQL.
- Development of a survey generator and analysis 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 víctimas 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

DYNAMICS NAV DEVELOPER

Lima, Perú

Dic. 2016 - Mar. 2017

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

HackSpace Perú

SOFTWARE DEVELOPER

Lima, Perú

Nov. 2015 - Nov. 2016

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

National Aerospace Research and Development Commission - Peru Space Agency

RESEARCH ASSISTANT TRAINEE

Lima, Perú

Apr. 2014 - Dec. 2015

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

DJEngineering

SOFTWARE DEVELOPER

Lima, Perú

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 - Feb. 2021

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
Jun. 2017


I FORUM OF TECHNOLOGIES AND ENTREPRENEURSHIP

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

Cellular Automata with Python

Universidad Privada del Norte,
Lima, Perú
May. 2017


CODE DAY

- 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 Interactive Programming Environment

Universidad Privada del Norte,
Lima, Perú
May. 2017


FLISOL LIMA

- 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
Oct. 2016


FUDCON: FEDORA USERS AND DEVELOPERS CONFERENCE

- 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
Ago. 2016

XXIII INTERCON INTERNATIONAL CONGRESS OF ENGINEERING, ELECTRONICS, ELECTRICAL AND COMPUTING

- 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
Jul. 2015

ENCUENTRO CIENTÍFICO INTERNACIONAL

Solar cycle forecasting.

Cusco, Perú
Sep. 2014

X CONFERENCIA LATINOAMERICANA DE GEOFÍSICA ESPACIAL

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 |