

Camilo Valenzuela

SOFTWARE ENGINEER

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An enthusiast for astro-engineering and technologies to help solve today's problems. Searching for new challenges.

Education

COMPUTER SCIENCE AND ENGINEERING.

Mar. 2011 - Jul. 2018

- Undergraduate thesis title: "Application of Recurrent Neural Networks for power forecast in Chilean Wind Farms."
- 77 on GPA (on a 1-100 scale)

Skills

Programming Python, R, C/C++, Matlab, LaTeX **Languages** Spanish, English

Experience

Automatic Learning for the Rapid Classification of Events (ALeRCE)

Santiago, Chile

SOFTWARE ENGINEER

April. 2019 - Today

- Working on the design and implementation of the ALeRCE ZTF and Rubin Observatory (ex-LSST) Broker.
- Creating a distributed architecture to store and process survey telescope observations using SQL/No-SQL databases and Docker.
- Developing end to end tools for astronomers. (Python packages, webpages, APIs)
- Helping on the deployment and research of classification models for astronomical objects.

Sistema Integrado de Predicción y Alarma de Tsunamis (SIPAT)

Valparaiso, Chile

SOFTWARE ENGINEER

Dec. 2018 - Feb. 2019

- Research and Development of an early tsunami warning system using the Inversion Method.
- Creating and implementing the system architecture, using a Cassandra Cluster and a micro-services approach.

European Southern Observatory (ESO)

Antofagasta, Chile

SOFTWARE INTERN

Jan. 2017 - Mar. 2017

- Working on Paranal Engineering Group's Technical Database to store 10 years of technical data.
- Testing several big data tools (Hadoop, Elasticsearch, Cassandra), Time Series Databases (OpenTSDB, KairosDB), Data Collectors (Logstash, Collectd) and Visualization Tools (Grafana, Kibana).
- Creating dashboard to help monitor and the further analysis of the instruments behavior.

Centro Científico Tecnológico de Valparaíso (CCTVAL)

Valparaiso, Chile

RESEARCH ASSISTANT

Jun. 2016 - Oct. 2016

- Working with Phd. Student in Image Segmentation using Pixel Classification with SVM models, for Breast Cancer Cells Images.
- Writing scripts to automate the Machine Learning experiments.

Atacama Large Millimeter Array (ALMA) Observatory

Santiago, Chile

SOFTWARE INTERN

Jan. 2016 - Feb. 2016

- Integrating ALMA's Dataflow Monitoring System, using Nagios and Grafana.
- Creating a prototype to monitor and analyze ALMA's dataflow.

Chilean Virtual Observatory (ChiVO)

Valparaiso, Chile

DEVELOPER IN THE FONDEF D111060 PROJECT.

Mar. 2013 - Apr. 2014

- Establishing and developing the first step to create a Chilean Virtual Observatory.

Extracurricular Activities

Computer Science Research Group (CSRG)

TECHNICAL LEADER

- Working on Astroinformatics projects.
- In charge of the management of the group, applied research, and training new members.

Valparaíso, Chile

2016 - 2017

Active Programming Course

TEACHER/ORGANIZER

- Small Scratch programming course for 10 to 14 year old kids. After the course they can create simple games using basic programming skills.

Valparaíso, Chile

Jun. 2015 - Jul. 2015

Honors & Awards

2012-2015 **Honor List**, Award for students with academic excellence in UTFSM.

Valparaíso, Chile

2014 **"Feria de Software" Award**, Best grades in Informatics Department Software Fair.

Santiago, Chile

Courses

2017 **La Serena School of Data Science**, AURA Observatory

La Serena, Chile.

2015 **ALMA Common Software Workshop**, ALMA Observatory

Santiago, Chile.

Publications

Multi-horizon Scalable Wind Power Forecast System

CAMILO VALENZUELA, ET AL.

IWAIPR 2018.

Towards Large-Scale ROI Indexing for Content-Aware Data Discovery

MAURICIO ARAYA, ET AL.

ASTRONOMICAL DATA ANALYSIS SOFTWARE AND SYSTEMS (ADASS) 2017.

Docker - based Implementation for an Astronomical Data Analysis Cloud Service.

MATIAS DIAZ, ET AL.

ASTRONOMICAL DATA ANALYSIS SOFTWARE AND SYSTEMS (ADASS) 2017.

Wrapping and Deploying Legacy Astronomical Code Into Python Environments.

MARTÍN VILLANUEVA, ET AL.

ASTRONOMICAL DATA ANALYSIS SOFTWARE AND SYSTEMS (ADASS) 2017.

Chilean Virtual Observatory services implementation for the ALMA public data.

JONATHAN ANTOGNINI, ET AL.

SPIE 2014.

Evaluating a NoSQL alternative for Chilean Virtual Observatory Services.

JONATHAN ANTOGNINI, ET AL.

ASTRONOMICAL DATA ANALYSIS SOFTWARE AND SYSTEMS (ADASS) 2014.

References

Eduardo Peña

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Lead Software Engineer

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