Maximiliano **Osorio**

COMPUTER SCIENCE ENGINEER · RESEARCHER · LINUX TROUBLESHOOTER

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Projects

DockerPedia   *Valparaíso, Chile*
CREATOR   *Feb. 2018 - Present*
- DockerPedia automatically describes the software components of Docker images and their vulnerabilities using Clair.
- Dockerpedia provides a visualization tool, which uses the available data, to help Docker users search and compare between different Docker images, allowing them to find software distributions which fit their needs and monitor the state of Docker repositories over time.

Education

M.Sc. in Computer Science   *Valparaíso, Chile*
UNIVERSIDAD TÉCNICA FEDERICO SANTA MARÍA   *Mar. 2017 - Present*
- Published five scientific papers in workshops, conferences and a journal.
- Thesis: Towards reproducibility of computational environments for Scientific Experiments using Container-based virtualization.
- Current GPA: 98 (on a 0-100 scale)

Computer Science Engineering   *Valparaíso, Chile*
UNIVERSIDAD TÉCNICA FEDERICO SANTA MARÍA   *Mar. 2010 - Jan. 2016*
- Evaluation of Kubernetes (v1.0.6), an orchestration system for Docker Containers.

Work Experience

Part-Time Professor   *Valparaíso, Chile*
COMPUTER SCIENCE DEPARTAMENT   *Jul. 2016 - Present*
- Proposed and currently teaching a new course called Software Deployment on Linux. Some of the tools used were: Docker, Kubernetes, AWS, Django, PHP, and Nginx. As a result, the students acquired practical and useful skills to deploy their applications.
- Currently teaching the course Operating System course. In this course, the students practically learned the concepts using a Linux environment and related tools such as strace and perf.

DevOps   *Valparaíso, Chile*
CHILEAN VIRTUAL OBSERVATORY (CHIVO)   *Jan. 2018 - May. 2018*
- DevOps in the Jovial porject, a Cloud service where astronomers can safely use Jupyter notebooks over a personal space designed for high-performance processing under the high-availability principle.

Systems Engineer   *Santiago, Chile*
LINETS   *Jan. 2014 - Mar. 2016*
- System Administrator for the internal servers and primary Level 3 support for all the clients.
- Worked with OpenStack and main components to build the first OpenStack deployment in Chile which backs Beebop, the first public cloud in Chile.
- Automatic Deployment of OpenStack using Docker Containers and Ansible playbooks.
- Design and implementation of Ceph Cluster.

Systems Administrator   *Valparaíso, Chile*
COMPUTER SCIENCE DEPARTAMENT   *Aug. 2011 - Oct. 2014*
- System Administrator for the internal servers, maintaining all the services to ensure its availability to students and teachers.

Skills

PROGRAMMING LANGUAGES

- Fluent in Go and Python.
- Good understanding of C, C++, Java and PHP.

CLOUD

- Excellent knowledge of OpenStack and its components; in particular, Kolla. It provides Docker containers, Ansible playbooks to deploy OpenStack on bare-metal or virtual machines.
- Develop experience on Kubernetes and Docker.
- Familiar with virtualization technologies (KVM) and Cloud providers (AWS, Digital Ocean, and Google Cloud).

DEVOPS & MASTERING TOOLS

- Experience with Docker, Ansible, Git and Jenkins to build the full chain of DevOps.
- Excellent skills to troubleshoot Linux problems using tools such as Tcpdump, Perf, strace etc.

Presentations

DockerPedia: A knowledge graph of Docker Images.
Santiago, Chile

PRESENTER FOR STARSCONF
Nov. 2018

- DockerPedia is an RDF linked dataset that stores the information about Docker images hosted in Docker Hub. We present DockerPedia in the Starsconf; the most significant technological event in Chile and one of the most important of South America.

Reproducibility of computational environments for Scientific Experiments using Container-based virtualization
Monterey, California, USA

PRESENTER FOR SEMSCI 2018: ENABLING OPEN SEMANTIC SCIENCE
Oct. 2018

- We propose to use containers for distributing software experiments throughout software images and an annotation system that describes these software images.

Docker security: Using Containers safely
Valparaíso, Chile

PRESENTER FOR SECURITY TALKS UTFSM
Jul. 2018

- An overview of the Docker security best practices to consider in your deployment.

Publications

JOURNAL ARTICLES

JOVIAL: Notebook-based astronomical data analysis in the cloud
  M Araya, M Osorio, M Díaz, C Ponce, M Villanueva, C Valenzuela, M Solar
  Astronomy and Computing 25 (2018) pp. 110–117. Elsevier, 2018

CONFERENCE ARTICLES

Docker-based implementation for an astronomical data analysis cloud service
  M Díaz, M Araya, C Jauregui, C Valenzuela, L Pizarro, M Osorio, M Solar
  XXVII Astronomical Data Analysis Software & Systems, 2018

WORKSHOP AND POSTER ARTICLES

DockerPedia: a Knowledge Graph of Docker Images
  Maximiliano Osorio, Carlos Buil Aranda, Hernán Vargas
  Proceedings of the ISWC 2018 Posters & Demonstrations, Industry and Blue Sky Ideas Tracks co-located with 17th International Semantic Web Conference (ISWC 2018), Monterey, USA, October 8th - to - 12th, 2018. 2018

Reproducibility of Computational Environments for Scientific Experiments using Container-based Virtualization
  Maximiliano Osorio, Carlos Buil Aranda, Hernán Vargas
  Proceedings of the Second Workshop on Enabling Open Semantic Science co-located with 17th International Semantic Web Conference, SemSci@ISWC 2018, Monterey, California, USA, October 8-12th, 2018. 2018

Storage Balancing in P2P Based Distributed RDF Data Stores
  Maximiliano Osorio, Carlos Buil Aranda
  Proceedings of the Workshop on Decentralizing the Semantic Web 2017 co-located with 16th International Semantic Web Conference (ISWC 2017), 2017