

# Hugues Alary

San-Francisco, CA  
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LinkedIn: <https://linkedin.com/in/huguesalary/en/>  
Github: <https://github.com/huguesalary>  
Personal blog: <https://boxunix.com>

## EDUCATION

- 2011 **Master Degree in Computer Science**  
SUPINFO International University, San-Francisco, CA
- 2011 **IT Management Certificate**  
Dominican University of California, San-Rafael, CA
- 2006 **Bachelor Degree in Computer Science**  
SUPINFO International University, Nantes, France

## TECHNICAL SKILLS

<b>Programming</b>	Go, PHP, Python, SQL, Bash, Ruby, HTML / CSS / Javascript
<b>Network</b>	Good understanding of TCP/IP and networking in general, Academic CCNA 1-2-3-4
<b>Systems</b>	Linux systems
<b>Technologies</b>	Kubernetes, Docker, Varnish, Redis, HAProxy, Nginx, Apache, Memcached, Ansible, Google Cloud
<b>Project Mngmt</b>	Git, JIRA, Pivotal Tracker
<b>Languages</b>	French (mother tongue), English (fluent)
<b>Personal</b>	Passionate, curious, open minded, fast learner

## PROFESSIONAL EXPERIENCE

### 2011- Jan 2020: **Principal Engineer**

Betabrand.com (eCommerce)

- Helped grow and scale the infrastructure supporting our business from 11k orders/year in 2011 to 442k orders/year in 2019
- Designed, maintained and improved the entire infrastructure supporting Betabrand.com
- Spearheaded multiple major infrastructure migrations
- Researched and implemented many architecture decisions
- Formulated, iterated and advocated for engineering best practices among our team
- On-boarded and mentored new hires
- **See concrete examples of projects in the appendix**

### 2009 - 2011: **Magento Developer - Systems&Network Administrator**

Girodmedical.com (eCommerce)

- Identified scalability issues with the company's legacy platform, OsCommerce, which was growing obsolete
- Researched and proposed a migration to a new platform, Magento
- Spearheaded platform migration project, successfully completed over an eight-month time frame
- Maintained the platform by fixing bugs and developing new modules
- Optimized website for SEO
- Optimized infrastructure for better response time
- Administered systems & network

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2008-2009: **Python Developer**  
Carra Consulting

- Development of a software in Python giving access to desktop applications after the insertion of a USB Stick in the hosting system
- Development of a live CD for fast deployment of the software on touchscreen terminals.

2007-2008: **PHP Developer**  
Euro-Information Production CM/CIC (Bank/Insurance)

- Improvement of a PHP software used for managing firewall rules of the network
- Writing of bash scripts for automatisisation of backup tasks on servers

## EXTERNAL ACTIVITIES

- Volunteer teacher for a year for CodeNation (a non-profit providing basic computer science courses to high schoolers in under resourced schools)
- Licensed skydiver, bouldering, cycling

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## APPENDIX

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Below is a more in-depth look at notable projects I worked on at Betabrand.com from 2011 to today, in no specific order.

- Helped grow and scale the infrastructure supporting our business from a **\$500k/year revenue in 2011 to \$55M** in 2019, and **projecting \$77M** in 2020.
- Researched, planned, and executed needed infrastructure migrations multiple times, **improving reliability, availability and scalability** of both production and development/staging systems.
  - Migrated from a shared hosting company to a VPS at Rackspace (2011)
  - Then from VPS to a Bare-metal infrastructure at OVH (2013)
  - Then from bare-metal to a Kubernetes solution (hosted on Google GKE) (2017)
  - A full write-up of those migration is available here:  
<https://boxunix.com/2018/12/10/from-bare-metal-to-kubernetes/>
- Wrote early infrastructure Ansible playbooks automating the creation of production, staging and development environments
- Wrote a “Varnish” module for Magento (<https://github.com/huguesalary/Magento-Varnish>) resulting in HTTP request time going **from tens of seconds to milliseconds**
  - Magento 1.x is notoriously slow and wasn’t built with caching in mind
  - I wrote a Magento extension allowing us to put a Varnish-Cache proxy in front of our installation
  - This module was the first Magento caching module of its kind because it allowed for specific parts of a given webpage to be cached independently from the page itself. That is, for example, a customer could load a “product” page from cache, while its “cart” would itself be cached and loaded independently, without the need to add AJAX code to the frontend.
  - Inspired another well-known project in the Magento community:  
<https://github.com/nexcess/magento-turpentine>
- Implemented a message queue and **shaved off tens of seconds** from out-of-cache HTTP requests
  - Identified that a lot of the slowness of our website was due to slow synchronous code behavior that could happen asynchronously
  - Came up with an elegant backwards-compatible solution allowing us to automatically move those code paths to a Publish/Subscribe message model
  - Originally built for RabbitMQ, I was later able to easily move to Google Pub/Sub when we migrated to Kubernetes
  - This project required investigating message queues and how they would fit in our infrastructure
- Investigated and migrated from PHP 5.4 to PHP 7.0, **resulting in 100% speed improvement**
  - Magento is written in PHP and one of PHP 7.0 biggest improvements was on performance, however, Magento <= 1.9 is only compatible with PHP 5.4
  - I had originally tried modifying Magento to use Facebook’s HHVM, but ultimately abandoned the project due to many issues I couldn’t solve
  - When PHP 7.0 came out, I decided to try modifying our Magento code on it, which was surprisingly easy

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- This project required investigating our Magento code, but also review and change our infrastructure configuration
- Spearheaded Magento upgrades multiple times
  - Magento is notoriously hard to upgrade
  - Over the span of a few years, I migrated Magento 1.3 -> 1.4 -> 1.6 -> 1.7
  - Unfortunately it since has been impossible for Betabrand to migrate from 1.7 to 1.9
- Wrote software simplifying the setup of development environment for our developers, **allowing the automated creation of staging and development environment via a simple command line**
  - In the early days of Betabrand, I wrote a set of Ansible scripts allowing the deployment of a production, staging or development environment. Those scripts were hard to maintain and prone to bugs and user errors.
  - Later, when docker was released, I wrote a Go program allowing our team to easily and consistently create staging and development environments. The tool itself was largely bug-free (thanks to Go) and offered a friendly command line interface.
  - This has since been supplanted by our use of Kubernetes, which allows us in a few command lines, to create a staging or local development environment based on our Kubernetes manifest files.
- Implemented continuous deployment pipelines **allowing our developers to not have to worry about how to deploy their code**
- Investigated our need for more powerful build pipelines and implemented a concourse-ci build server (<https://concourse-ci.org/>)
- Carried out regular load testing against our infrastructure, **surfacing and fixing scalability issues**
- Investigated and implemented work arounds for well known MySQL deadlock issues happening in Magento, **improving the maximum rate of orders per minute by 8,000%**
- Provided informal training to every team members on Magento framework
- Was a **key influencer and decision maker** on most technical problems our team solved
- Advocated best practices and rulebooks for our team
- Wrote countless Magento extension for our business needs
- Try to investigate, report and submit PRs to open source projects when running into issues
  - <https://github.com/machine-drivers/docker-machine-driver-xhyve/pull/121>
    - This PR came from the need to allow a “docker-machine” driver to mount multiple NFS volumes. The original driver did not offer this possibility.
  - <https://github.com/machine-drivers/docker-machine-driver-xhyve/pull/195>
    - This PR fixed an issue I identified in the “xhyve docker-machine driver” while working on implementing the feature of multiple NFS shares on Minikube.
  - <https://github.com/GoogleContainerTools/kaniko/pull/736>

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- This PR fixes an oversight in Google's kaniko tool (a tool creating docker images without the need for docker)
- <https://github.com/concourse/concourse/pull/4299>
  - This PR came from my need to use absolute paths in my "concourse" build pipelines