

## SUMMARY

I am a software engineer at wikiHow, where I build web products that reach millions every day and create tools to enhance business processes. Previously, I helped Ryanair grow its online platform as it expanded rapidly, playing a central role in improving old systems and building new ones.

With over 8 years of experience in the industry, and having designed, built, extended, and maintained large systems in a variety of languages, I am a versatile engineer comfortable at all levels of the web stack, from servers to stylesheets. I am particularly adept at translating business needs into reliable, efficient, and extendable back-end code. The largest projects I've worked on were built on PHP and Java, and I have also written a fair amount of Python, Bash and JavaScript.

Here are some of the tools and techniques I've used:

- Java EE: Spring, Hibernate, Maven, JUnit, Mockito, Liquibase, JSTL, EL, AspectJ, JAX-RS, JAXB.
- PHP: Zend framework, MediaWiki, Laravel, Composer, PHPUnit, Mockery, Doctrine, Xdebug.
- Python: Flask, Bottle, virtualenv.
- Data: MySQL, Redis, Memcached, Amazon Redshift.
- Infrastructure: AWS, Rackspace, Fastly, Chef, Puppet, Vagrant.
- Linux: shell (Bash) scripting and a plethora of command line tools.
- Design patterns, algorithms, data structures, Scrum, Kanban, Git, Mercurial.
- Public APIs: Google, Facebook, Twitter, Yahoo, etc.
- Client-side: Javascript, jQuery, HTML, CSS, Bootstrap, AMP.
- To a lesser degree: C, TCL, Ruby, Go, PostgreSQL, MongoDB, Oracle DB.

# EXPERIENCE

## **Software Engineer at wikiHow**

February 2015 → Ongoing

Palo Alto, California (remote)

- Full-stack software engineer with a focus on the back-end; I work with many tools and languages: PHP, Python, Bash, MySQL, Redis, Memcached, Varnish, Chef, Vagrant, AWS, JS, HTML, CSS, etc.
- Develop new features for [wikihow.com](http://wikihow.com) (mobile and desktop) and fix security vulnerabilities.
- Create software to detect and prevent malicious bot activity like denial-of-service attacks.
- Configure and provision new server infrastructure using Chef to install Varnish, Memcached, etc.
- Prepare a Vagrant VM to make it easy for engineers to run and develop code for wikihow.com.

## **Software Engineer at Ryanair**

September 2011 → February 2015

Dublin, Ireland

- I was a core Java back-end developer working on [ryanair.com](http://ryanair.com). My colleagues and I rewrote the website from scratch and extended it with new features such as geolocation, public APIs, etc.
- Create an email marketing application in Java, backed by a Hadoop database.
- Develop the core of a very large PHP project (old ryanair.com; ~15 million hits/day at the time).
- Coordinate code releases, manage 10+ Linux servers (build automation, Tomcat, Git hooks, etc).
- Create developer/sysadmin tools and automation scripts with Python and Bash.
- Design MySQL database schemas, optimize queries, configure MySQL Server.
- Develop JavaScript modules; e.g. an analytics plugin used to track user behavior, bookings, etc.

## **Web Developer at Château de la Tuilerie**

April 2011 → September 2011

Nîmes, France

- Create their new online shop from scratch and an admin panel to manage it.
- Develop my own PHP microframework (router, templating system, helpers, etc.).
- Modify existing Java inventory software.

## **Freelance web developer**

2010 → 2011

Toledo, Spain

- As a student, I created PHP websites for local businesses and updated their existing sites.

# EDUCATION

|  |                               |
|--|-------------------------------|
| <b>Associate Degree in Computer Science</b> (Tertiary education / ISCED 5B)<br>Azarquiel Institute of Technology | Toledo, Spain<br>2009 – 2011  |
| <b>Web Development Course</b><br>M.P.R. Escuela Informática (programming school)                                 | Toledo, Spain<br>2008 – 2009  |
| <b>Baccalaureate in Science</b> (Upper secondary general / ISCED 3)<br>Alfonso X el Sabio (secondary school)     | Toledo, Spain<br>2006 – 2008  |
| <b>Secondary Education</b> (Lower secondary general / ISCED 2)<br>La Sisle (secondary school)                    | Sonseca, Spain<br>2002 – 2006 |

## Courses completed online:

|  |   |
|--|---|
| UC Berkeley: CS 61B - Data Structures          | Prof. Jonathan Shewchuk                 |
| MIT: 6.042J - Mathematics for Computer Science | Prof. Tom Leighton, Dr. Marten van Dijk |

## Some of my favourite technical books:

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|---|--|
| Algorithm Design Manual, The  | Steven Skiena                              |
| Computer Networking: A Top-Down Approach  | James Kurose, Keith Ross                   |
| Effective Java  | Joshua Bloch                               |
| Head First Design Patterns  | E. Freeman, B. Bates, K. Sierra, E. Robson |
| High Performance MySQL  | B. Schwartz, P. Zaitsev, V. Tkachenko      |
| Java EE 6 Pocket Guide  | Arun Gupta                                 |
| Pro Git   | Scott Chacon                               |
| Silence on the Wire: A Field Guide to Passive Reconnaissance and Indirect Attacks | M. Zalewski                                |
| SQL Antipatterns: Avoiding the Pitfalls of Database Programming                   | Bill Karwin                                |
| Systems Performance: Enterprise and the Cloud                                     | Brendan Gregg                              |
| Tangled Web: A Guide to Securing Modern Web Applications, The                     | Michal Zalewski                            |
| Well-Grounded Java Developer, The   | Benjamin J. Evans, Martijn Verburg         |

# CODE SAMPLES

I like solving algorithmic puzzles, like the ones in [projecteuler.net](http://projecteuler.net), here are some examples:

- An efficient [Sudoku solver](#) (a backtracking algorithm with search pruning).
- An [optimal path finder](#) for matrices (an implementation of Dijkstra's algorithm).
- A [Pell's equation solver](#), which uses the convergents of continued fractions to find solutions.