

# Armand Adroher

SOFTWARE DEVELOPER · EDUCATIONAL WRITER · HIGH SCHOOL TEACHER

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## Experience

### Senior Developer

Remote

CODEGRAM

03/2020–now (9 months)

- Currently working as a full-stack senior software engineer for this small distributed software development company.
- Some projects which I worked on while in this role are:
  - Development of both the site of the GitHub Stars Program and the back end that both manages the data for it and integrates with the tools used by the Developer Relations Team at GitHub. The system is built with PostgreSQL + Node.js on the backend and the Nuxt Vue framework on the frontend side.
  - Development of new features for both end-user facing applications (e.g. this job post feed) and internal back-office tools for the Job and Talent temporary staffing firm. Development involved all levels of the stack, which is mainly a collection of services built on top of PostgreSQL / Elasticsearch + Rails + React.

### Senior Software Engineer

Glasgow, UK

BBC - D+E EDUCATION

04/2018–02/2019 (1 year 1 month)

- Worked as a full-stack senior software engineer under the Education division of the Design and Engineering (D+E) branch of the BBC. This division is responsible for designing and building several parts of the bbc.com site. Despite what the name seems to imply, it does not only own Bitesize but also, BBC Food, the BBC Three site and Programmes.
- In addition to what is included in the description of my previous role in this organisation, being a Senior Software Engineer also involves:
  - Having a bigger say on the technical design and the organisational arrangements on how to implement product features.
  - Writing technical documentation (e.g. specific approach for implementation, API docs or system run-books).
  - Being proactive in making sure that fellow software engineers overcome any obstacles they may find when building technical solutions for the implementation of the product features.
- Some projects which I worked on in this role were:
  - Adding new personalisation features Bitesize.
  - When I left the BBC I was part of a small team which had the objective to explore different product approaches and their technical feasibility in order to create cross-site topics pages in the BBC site. These pages are expected to surface and curate content available from all BBC internal APIs.

### Software Engineer

Glasgow, UK

BBC - D+E EDUCATION

04/2018–01/2019 (10 months)

- The role of Software Engineer includes:
  - Design, implementation and deployment of the technical solutions across many levels of the stack for the concrete features defined by the product team and in accordance with the general directions defined by Tech Leads and Senior Software Engineers.
  - Coordination with product managers, UX designers and QA Testers.
  - Being a *buddy* with new starters to help with their onboarding and mentoring junior developers and interns.
- Most of the products that we build currently run on AWS and are comprised mainly of:
  - React and Redux for the client web application.
  - Node.js microservices as AWS Lambda modules to be run in the context of back end frameworks developed in house.
  - Internal APIs (mainly CMSs, search, and ontology stores) and ad-hoc databases (from relational ones to document and key-value oriented) for the data persistence.
  - Automated CI jobs and definition and provisioning of infrastructure stacks with AWS CloudFormation.
- The team quite faithfully followed many of the currently accepted good practices. Issues are tracked on a kanban and are reviewed in 3 amigos sessions, unit tests are written first and most of the time implementations are developed in pairs.
- Projects which I worked on during this period worth mentioning are:
  - Finishing the implementation of a system of reusable content fragments for both BBC Food and Bitesize.
  - Managing the transition to the new branding and features added in September 2018 for the 20th Anniversary of Bitesize.
  - Collaborating with the D+E Content Production Systems division on the ongoing efforts to develop a new News article editor for a new CMS developed in-house.

## Software Developer

Glasgow, UK; Johannesburg, SA

CASEBLOCKS / EMERGEADAPT

08/2016–now (1 year 6 months)

- CaseBlocks (formerly known as EmergeAdapt) (caseblocks.com) is a software development company whose main product is a Business Process Management web application with the same name.
- My role in the company includes both technical and organisational tasks. Among others:
  - Direct communication with local and international clients, both online and on site, in order to gather requirements, manage their change and translate them into technical specifications.
  - Mentoring both new junior developers and interns.
  - The design and development for the main CaseBlocks product and other smaller standalone services that integrate with it. This involves operating at all levels of the stack, including but not limited to:
    - ★ Developing the client using Ember.js (in Coffeescript), React + Redux (in ES6) and SCSS for the styles.
    - ★ Developing the main back-end CaseBlocks application software unit with Ruby on Rails.
    - ★ Developing independent services that integrate with it using Node.js and Golang.
    - ★ Designing the data model and interacting with MySQL, MongoDB, Redis and Elasticsearch for the non-volatile storage.
    - ★ Managing continuous integration and deployment with Jenkins and Docker on regular virtual boxes. Currently migrating to Kubernetes on Google Cloud Platform.
- The development team follows agile practices (such as TDD, pair programming, kanban style issue tracking), although due to its reduced size, they are not always strictly followed.
- 5 months of this year and a half were spent working on-site at a client's (Harambee) offices in Johannesburg, working in a team with developers from other local software vendors (IQBusiness and dotmodus).

## Software Developer

Glasgow, UK

TWIG WORLD

07/2015–12/2015 (7 months)

- Twig World (twig-world.com) is a web-based educational resource company that produces films and teaching support materials for schools around the world.
- I worked as part of the team responsible for the development and maintenance of the company's web applications. My role involved mainly back end development, but incursions in the browser side were not uncommon. The stack used for most of the applications was the following:
  - Regular Django templates + AngularJS
  - Python on Django
  - MySQL + MongoDB
- The most common Agile practices were enforced:
  - Test Driven Development.
  - Continuous Integration and Deployment (Github + Travis + Jenkins)
  - 15 day sprints
  - Kanban driven task management
  - Daily stand-up meetings
  - Peer code reviews before accepting pull requests
  - Pair programming for certain jobs
- Among others, I worked extensively in the following projects:
  - Integration with a third-party Single Sign-On service (RM Unify) using Shibboleth.
  - Automated data gathering and processing for the further generation of Tableaux reports for the sales team.
  - Development of a modular AngularJS application that lets users import tabular data into our system by sanitising it and adapting it to the back end data model. This included the development of the extension of the back end REST API, too.
- The short stay in this company deserves an explanation. I had to regretfully quit this job because I was unexpectedly offered a contract to write a 3rd text book for Vicens Vives (see next item).

## Computing Coursebook Writer

Remote

EDITORIAL VICENS VIVES

09/2014 – 08/2018 (4 years 1 month)

- Vicens Vives (vicensvives.com) is a leading publisher in Spain that produces textbooks and other teaching support materials for schools in several Spanish speaking countries.
- I have been the coauthor of 3 textbooks for the new secondary education subjects on ICT/CS to be soon implemented in Spain (for students 15 - 18 years old). Their contents introduce the following topics:
  - Use of office suites
  - Use and design of relational databases
  - General-purpose programming in Python
  - Web development with Flask
  - Computer architecture
  - Computer security
- This has been the perfect chance to go back to the basics and check if one truly understands them as well as to exercise the communication skills needed to explain complex matters to a non technical audience.
- This project is now coming to an end. Only reviewing and editing for the last book is left to be done.

## Baccalaureate (Sixth Form) Teacher

CES JOAN MARAGALL

*Badalona (Barcelona), Spain*

*10/2013–09/2014 (1 year)*

- Teacher of History and Geography and Form Tutor in this free high school.

## Software Developer

WAWD

*Cerdanyola (Barcelona), Spain*

*01/2012–09/2013 (1 year 9 months)*

- WAWD (wearewebdesign.es – also known as C4B ) is a Spain-based company specialising in bespoke software development. It has a long history of providing the technical services for digital marketing campaigns but it later evolved into offering a wider range of solutions.
- I worked in a small team taking part in all the steps of the development process and at all levels of the stack. This includes analysis, design, implementation and testing of medium-sized projects.
- These projects used to be the traditional database driven web applications, where most of the logic is located at the back end. They were the typical database driven applications with the following technologies:
  - Widgets written with JQuery in the browser client.
  - PHP on CakePHP / Python on Django / Ruby on Rails at the server.
  - MySQL / PostgreSQL as the DB.
- Among others, I worked extensively in the following projects:
  - A complete room reservation system for a high-end hotel integrating it with its existing web site.
  - Several company websites including their bespoke Content Management Systems.
  - Extension of the functionality of a Business Process Management system for a logistics firm.
- Working remotely from Munich from 10/2012 on.

## Baccalaureate (Sixth Form) Teacher

GRANÉS BATXILLERAT

*Barcelona, Spain*

*09/2010–01/2012 (1 year 4 months)*

- Teaching Philosophy, History of Philosophy, Psychology and Geography in this private high school.

## Software Developer

MATGRAN

*Barcelona, Spain*

*06/2009–08/2010 (1 year 3 months)*

- Matgran (matgran.com) is a web based company that produces teaching support materials for the STEM subjects through its platform Matheutikos (matheutikos.com). It is an application where students have to solve secondary school level math assignments while having access to the relevant content. These assignments may be in turn managed by their teacher.
- I developed the first fully working prototype of Matheutikos from scratch when the company was still in its infancy. It was based on the following technologies:
  - In the client side, it started by taking full advantage of only Firefox's MathML rendering ability. Later on it has been integrated with the Mathjax javascript library.
  - The back end logic was developed using PHP on CakePHP (a MVC framework that mimics Rails).
  - Mathematica scripts were written to allow the content writer generate parameterised LaTeX code, which was in turn dumped into the database.

## Secondary Education Teacher

ESCOLA SANT GREGORI

*Barcelona, Spain*

*03/2010 - 06/2010 (4 months)*

- Teaching ICT part time in this free school.

## Baccalaureate (Sixth Form) and Secondary Education Teacher

ESCOLA SANT GREGORI

*Barcelona, Spain*

*09/2005 - 09/2008 (3 years)*

- Teaching Philosophy, History of Philosophy, Religious Culture, Logic and Methodology of Science and Sociology in this free school, as well as working as a form tutor for three whole academic years.

## Baccalaureate (Sixth Form) Teacher

CIC ESCOLA DE BATXILLERATS

*Barcelona, Spain*

*09/2003 - 09/2005 (2 years)*

- Teaching Philosophy, History of Philosophy and Sociology in this free high school.

## Education

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### BSc in Computer Engineering (4 years)

Barcelona, Spain

UOC (UNIVERSITAT OBERTA DE CATALUNYA)

01/2009 – 06/2015 (6 years 5 months)

- This is a 4 year Bachelor's Degree which involves theoretical Computer Science, Software Engineering and Computer Architecture. I followed the *Computing* itinerary, with a specialisation in Machine Learning.
- Among others, this degree involved extensive exposure to the usual suspects:
  - C for system and embedded software programming
  - JavaSE and the full UML specification instruments
  - Relational Databases (Oracle, PostgreSQL)
  - Weka (Java) and R for Machine Learning.
- The bachelor's dissertation approached the prediction of user behaviour in a virtual campus by means of Hidden Markov Models. It can be downloaded from the official repository (<http://hdl.handle.net/10609/40661>) or from my Github account. It is written in Catalan, though.
- It took me 6 years to finish it since I did it part time.

### MA in Philosophy (1 year)

Barcelona, Spain

UB (UNIVERSITAT DE BARCELONA)

09/2003 – 06/2007 (4 years)

- This is, in fact, the old Spanish postgraduate degree called “DEA (Diploma d'Estudis Avançats)” which amounts to 30 ECTS (including taught sessions and final dissertation).

### BA in Philosophy (4 years)

Barcelona, Spain

UB (UNIVERSITAT DE BARCELONA)

09/1999 – 06/2003 (4 years)

- This is, in fact, the old Spanish 4 year undergraduate degree called “Llicenciatura”.

## Workshops

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### Climate Change Uncertainty in Future Flood Frequency (Scotland) using R to analyse the database (Heriot-Watt University)

Edinburgh, UK

INTRODUCTION TO THE R PROGRAMMING LANGUAGE AND ITS ENVIRONMENT

12/2016

- Gave a day long workshop to introduce the R language and its runtime environment to researchers of the Institute for Infrastructure & Environment.

## Languages

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- **English:** Full professional proficiency
- **Catalan:** Native language
- **Spanish:** Native language
- **French:** Limited working proficiency
- **German:** Elementary proficiency
- **Czech:** Just started learning it