



# Guillem Serra

BACKEND SOFTWARE ENGINEER

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*Bon camí sempre és drecera.*

## Summary

ICT Systems Engineer with +3 years of professional experience in backend development (Python) within a wide variety of products. I enjoy designing systems that deliver great results while being carefully built and I believe working in a team is key to achieve that.

## Skills

**Programming** Python | Scala | Elixir  
**Back-end** Django | REST API | Postgres | Redis | ElasticSearch | µServices | Event-driven architecture  
**DevOps** AWS | Docker | Terraform | CircleCI | Prometheus | Grafana  
**Other** Linux | Git | Agile  
**Languages** Catalan | English | Spanish

## Experience

### 21 Buttons

Barcelona, Spain

BACKEND TECHNICAL LEAD

Jun. 2019 - Now

- Proactively look for ways to improve the team's technical knowledge.
- Organize weekly workshops to explore trending technologies or interesting topics.
- Drastically cut down infrastructure costs by **75%** (due to company needs) in 4 months.
- Migrate services and their data back to a **monolithic architecture** without any service interruption.
- Work in a new project called Wefan which enabled people to purchase short personalized videos from many "celebrities". Designed and implemented a **FSM** to handle the orders lifecycle (customer service review, payment, media from the celebrity, etc) integrated with **Stripe** and **Amazon SES**.
- Work in a new project called Closeapp which was a chat based application integrated with **Sendbird** and Apple's subscription system.
- Continuously improve our codebase quality with linter tools, static typing frameworks, coverage analysis (**flake8**, **mypy**).

### 21 Buttons

Barcelona, Spain

BACKEND DEVELOPER

Apr. 2018 - Jun. 2019

- Develop various features in a agile environment with fully autonomous squads for a fashion social network with more than **13M users** in 10 countries.
- Design and maintain a REST API written with **Python** (Django) using **Postgres**, **ElasticSearch** and **Redis** as our main stack.
- Take part in defining an internal code architecture based on **Clean Architecture** principles.
- Use **Terraform** to manage many **AWS** services (IAM, S3, ECS, RDS, SNS/SQS, Redshift, etc).
- Improve monitoring and alerting mechanisms with technologies like **Datadog**, **Sentry**, **Grafana** and CloudWatch.
- Work towards an **event driven architecture** to achieve better interoperability between many backend services.
- Work closely with the data team to create easily manageable AI services to classify and moderate content in the platform.

### Imbee

Barcelona, Spain

BACKEND DEVELOPER

Jul. 2017 - Apr. 2018

- Migrate from a PHP monolith to **Python** µservices for an instant messaging system orchestrated with Docker Swarm.
- Develop a custom chatbot system based on finite state machines integrated with Imbee's platform.
- Write high performant async Python code for various tasks: API, message consumers, custom Prometheus metrics, data recollection, etc.
- Build and maintain **Docker Swarm** clusters, hosted in AWS, for various environments with fully automated CI/CD pipelines using **Gitlab Runners**.
- Deployed a centralized monitoring system (Grafana + Prometheus) to gather metrics from different sources: Redis, Ejabberd, AWS, docker runtime.
- Write custom **Ejabberd** modules to integrate it with **MariaDB** and **RabbitMQ**.
- Load testing, tuning EC2 instances for heavy loads (**25k+** concurrent users) and develop a high availability architecture.

### Sallent Town Hall

Sallent, Spain

IT DEPARTMENT INTERNSHIP

Feb. 2017 - May. 2017

- Management of several virtual servers (Microsoft Server).
- User login management with Active Directory.
- Network design to connect several locations of Sallent using optical fiber.
- Develop an internal web application to search employees' phone extensions. Used **Flask** + **MariaDB** with **Docker**.

## Education

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### Bachelor's degree in ICT Systems Engineering

UPC (UNIVERSITAT POLITÈCNICA DE CATALUNYA)

*Manresa, Spain*

*Sept. 2013 - Aug. 2017*

Current systems require integrated knowledge of the three branches of information and communication technology: electronics, informatics and communications. The aim of the Degree is to produce professionals with the expertise needed to work in environments that combine these three areas.

### Technological High-School graduate

I.E.S LACETÀNIA

*Manresa, Spain*

*Sept. 2011 - Aug. 2013*

## Awards

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2017    **1st Place**, TIC3 Best Final Graduate Project in ICT Systems Engineering. **Download the project here.**

*Manresa, Spain*