Marcelo Fernandes

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I've spent many years working in the software industry, helping businesses to grow secure, optimized and high-quality applications. Now I am searching for new opportunities to create meaningful and tangible outcomes through my computing work.

I grew up in Laguna, South Brazil. Due to circumstances I am grateful for, I now live in New Zealand, where I enjoy the landscape and endure the winters, wild winds, and the daredevil pukeko birds that fearlessly cross the high-way.

Experience

Clarivate • 2019 Apr - Present
Senior Software Engineer

Technologies: Django, Docker, Celery, Django Rest Framework (DRF), Elasticsearch, AWS, Jenkins, Javascript, Postgres, Vue JS, Angular, Web-pack, Jupyter Notebooks, Github/BitBucket, and more.

Our team manages a Django application accessed by ~2.3 million users monthly. One of the biggest challenges at work is to deal with the hundreds of thousands of celery tasks that we trigger each day, making sure they are not generating data inconsistencies. Other complex challenges include dealing with big loads of data whilst ensuring reports generated from db queries are performatic, and securing the healthiness of Elasticsearch indexes at all times.

Accomplishments
- Mentoring junior developers in Django and Python best practices through pairings and meetings (dev chats).
- Several improvements to the delivery systems (CI/CD). For example:
    a. Raising awareness of long-running migrations and down-time within the team, including mitigation tactics - this resulted in a deploy pipeline task that checks for long migrations before they hit production.
    b. Implementing deployment solutions to Celery workers to prevent shut down during production deployments (blue/green tactics).
    c. Adding merge-freeze functions to avoid production deployments for times when staff are unavailable.
- Automating code standards - e.g, setting up pre-commit hooks to run flake8 and eslint checks, along with other misc. checks to avoid common human mistakes and typos.
- Promoting and supporting a culture of architecture and design at Publons:
    a. Flagging complex code for architectural review.
    b. Leading sessions to scope code design and code patterns.
    c. Propagating a "leave the code better than you found it" mentality.
- Analysing, scoping, and implementing complex features:
    a. Migrating large portions of legacy backbone code to VueJs - including work towards deployment pipelines to generate and serve Vue bundles.
    b. Refactoring multiple complex function-based views into testable smaller units of class-based views.
    c. Refactoring large apps in the Django monolith code into DRF restful API's.

ConsumerAffairs • 2017 Sep - 2019 Apr
Senior Software Engineer / Software Architect

Technologies: Python, Django, Docker, Celery, AWS, Circle CI, Javascript ES6, MySQL, Postgres, DRF.

ConsumerAffairs is a Django application with high SEO demands. This means that server-side responses are resolved quickly, usually within 0.3 seconds. The biggest challenges included orchestrating many layers of cache in the backend, and generating efficient sql queries through Django ORM to aggregate all data in the response-time threshold.

Accomplishments:
- As a Software Architect, I created, scoped, and provided technical approaches to resolve important business problems. This was transcribed into Jira issues and would then be delegated to software engineers in my squad. I also used this as an opportunity to promote good Django practices in my team.
- Creating a CMS in Django to allow copy-writers to generate highly customisable pages in only a few minutes. Pages complied with the 0.3s response-time rule and could be edited in real-time.
- Designing and maintaining multiple deployment pipelines for DRF API's.
- Creating dashboards to monitor query and page performances, alarm triggers for slow pages, (Datadog, New Relic, Django), etc.

Agriness • 2017 Apr - 2017 Nov
Software Engineer
Technologies: Django, DRF, stored procedures (PostgreSQL), AngularJs, Docker, Jenkins.

Agriness is a farm management system built in Django (DRF) and AngularJs. My role involved transcribing portions of a 16 year-old Objective-C/Java project to Django (DRF API).

Accomplishments:
- Creating an authentication system to allow secure communication between in-house restful API's via JWT tokens.
- Refactoring complex sql stored procedures into readable and testable smaller units of Python code composed of Django ORM calls. Some refactors outperformed the stored procedures themselves.

Evergenius Digital Marketing • 2016 Mar - 2017 Mar
Software Developer Contractor
Technologies: Django, Javascript, Postgres, Bootstrap, Jquery, CSS, Digital Ocean droplets, Web-Crawlers (requests + scrapy), Selenium.

Evergenius is an agency focused on digital marketing.

Accomplishments:
- Creating web-crawlers (Python) to perform SEO analysis of several websites, reporting back on whether those websites could become potential clients.
- Creating automated web page analysers to output a list of SEO items to be improved.
- Coding landing pages with customised forms for lead retention (Django).

Fernandes Engineering Firm • 2010 Jul - 2015 Aug
Software Developer
Technologies: Python, PyQT, MySQL, Embedded devices, unix.

Fernandes is an engineering firm focused on providing specialised services for the government.

Accomplishments:
- Creating automation pipelines for engineering procedures in Python.
- Programming Raspberry Pi devices to capture and display metrics from offline systems.
- Parsing industrial device data into human-readable formats and storing them for future consultation and analysis in the inhouse database.
- Maintaining the ecosystem of unix servers that provided the IT infrastructure.

Education

Masters in Computer Science (Big Data Analytics) - Wrexham Glyndwr University (in progress)
Bachelors in Electrical Engineering - California State University / Federal University Of Santa Catarina