**Jose Haro Peralta (Algorizm/microapis.io)**

**Full stack consultant and solutions architect | Tech lead | Author | Instructor**

London, United Kingdom

Number: +447940366070

Email: hello@microapis.io / info@algorizm.co

LinkedIn: https://www.linkedin.com/in/jose-haro-peralta/
Github: https://github.com/abunuwas
StackOverflow: https://stackoverflow.com/users/5178775
YouTube: https://www.youtube.com/channel/UCtrp0AWmJJXb50zb12XxTlQ
Calendly: https://calendly.com/joseharoperalta/let-s-talk

**Keywords**: Python | Django | Flask | FastAPI | serverless | AWS | GCP | JavaScript | TypeScript | Node.js | Vue.js | Bash | APIs | Microservices | REST | OpenAPI | GraphQL | Security | Open Authorization (OAuth) | OpenID Connect (OIDC) | API security | Data Pipeliens | Scalability | Reliability | Monitoring | Automation | SQL | SQLAlchemy | noSQL | MongoDB | PostgreSQL | Linux | Ubuntu | | Git | Jenkins | Travis |  CircleCI | Docker | Kubernetes | CloudFormation | Terraform |  Test-Driven | Agile | CI/CD | Code reviews

Full stack consultant and solutions architect with over 10 years of experience. Over the past years, I've helped organisations of all sizes and industries to build microservices and APIs, automate their processes, enhance their platform security, and improve the overall quality of their software. In my last engagement, I helped a major international retailer build a sales forecasting application powered by ML models and crunching millions of data points. Along the way, I also helped them adopt best DevOps practices and enhance their API security implementations across the board.

I'm also the author of *Microservice APIs* (https://www.manning.com/books/microservice-apis), a frequent blogger and speaker, founder of microapis.io, and I run a very popular series of workshops about coding in Python and building complex systems (https://microapis.io/workshops).

## Key Technical skills

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|---|---|
| **Linux server administration** | Ubuntu |
| **Programming languages** | Python (expert), Bash (fluent) JavaScript/Node.js (medium), Typescript (medium) |
| **Databases** | SQL, noSQL, PostgreSQL, MongoDB |
| **DevOps and automation** | Git, Jenkins, Travis, CircleCI, Docker, Kubernetes, CloudFormation, Terraform, Bitbucket, GitHub, CircleCI |
| **Cloud** | AWS, GCP, Heroku, Render, MongoDB Atlas |
| **Frameworks** | Django, Flask, FastAPI, Express.js, Vue.js |

# Most recent professional experience

**Director, Algorizm Ltd/microapis.io, London, UK.**
June 2019-present. **Clients details and additional information available on request:**

## Major international retailer (tech lead consultant)

May 2020-May 2022

- **Led** the development of the backend infrastructure for a sales forecasting application powered by Machine Learning models. I aligned with key product stakeholders to ensure we delivered the right features.
- Introduced best **DevOps** and **security** practices across the board. Audited and discovered major security flaws across a range of internal APIs and helped fix them.
- Led the **system architecture** design and database optimisation efforts to allow the application to operate at scale reliably.
- Built the first iterations of the **UI**, starting with Dash and then Vue.js.
- **Led** the introduction of API design and development standards, good coding and automation practices, and **mentored** team members. I also helped the client conduct interviews for new candidates.
- Main tech stack:
    - **Backend**: Dash, Flask, flask-smorest, FastAPI, pytest, SQLAlchemy + alembic, pandas
    - **Frontend**: Vue.js, Typescript, cypress
    - **Infrastructure**: GCP, Docker, Kubernetes/GKE, PostgreSQL, BigQuery, Terraform, Airflow

## UK pet food startup (full stack consultant)

February 2020-May 2020

- Helped to build a partner API for the launch of a collaborative product between the client and a major business partner. I **aligned** with key **stakeholders** to gather **requirements** and support the product development roadmap.
- I **led** the introduction of API design and development standards, good coding and automation practices, and **mentored** team members.
- Main tech stack:
    - **Backend**: Flask, pytest, tox, mypy, SQLAlchemy + alembic, celery
    - **Frontend**: Vue.js, vuex, Typescript, cypress
    - **Infrastructure**: Docker, AWS, MySQL

## Major financial corporation (full stack / tech lead consultant)

June 2019-January 2020.

- Worked side by side with an AI team to build a **Natural Language Processing (NLP) Pipeline** for the automated analysis of investment contracts.
- I designed the system **architecture** and **led** the implementation of the backend infrastructure that runs the AI models. At each iteration of the project, I made sure that the

proposed solutions were **aligned** with the available resources for development in order to meet **deadlines**, deliver on time, and meet the target running costs.

- I took full **ownership** of the software **development cycle**, introduced good coding and automation practices, **mentored** team members, and helped the client conduct **interviews** for new candidates.
- Main tech stack:
    - o **Backend**: Flask, pandas, numpy, spacy, nltk.
    - o **Frontend**: Vue.js.
    - o **Infrastructure**: Docker, AWS, ECS, Step Functions.

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## Previous full-time employment

**Senior DevOps Engineer & Python Developer, Bought by Many, London, UK.**
September 2017-June 2019.

- Led the introduction of **DevOps culture** in the company. Helped to automate all the infrastructure, monitor the uptime and performance of the system, audit and harden platform security, and manage all the releases.
- Set up continuous integration and delivery pipelines (CI/CD) with Travis for over 150 GitHub repos. Unified repository set up. Automated nightly backups for all the code. Included automated rollouts and rollbacks. Optimised build times (reduced build time for serverless apps by 50%).
- Built an **infrastructure automation and configuration management** system to allow us to manage infrastructure in over 30 multi-cloud environments (each with its own AWS account).
- Built an **automated test and releases orchestrator** to schedule automated tests and visualize historical performance of the tests, allowing us to catch bugs early in the development cycle and gain visibility of deployments across all environments.
- Audited and hardened system **security** by running **OWASP** tests, strengthening website **authentication** and **authorization**. Secured **AWS** access with **AWS Organizations** and delegating access to development and production accounts following the **least privilege principle**.
- Contributed features to internal and public facing websites, including the development of custom Python libraries and Django plugins.
- Main tech stack:
    - o **Backend**: Django, Flask, SQLAlchemy + Alembic, Node.js, Express.js, tox, pytest.
    - o **Infrastructure**:
        - ▪ Systems: Travis, Docker, AWS, CloudFormation, Heroku, MongoDB Atlas, RabbitMQ, OWASP, Sentry, PagerDuty, Slack integrations, Pingdom.
        - ▪ Libraries: stacker, troposphere, sceptre, Zappa, Gordon.
    - o **Frontend**: Vue.js.

**Cloud Services Python Developer, Intamac Systems Ltd., Northampton, UK.**
April 2016-September 2017.

- Helped the company redesign their **IoT platform** to support an increasing number of connected devices, with focus on scalability, reliability, and performance. Aligned with key **stakeholders** to gather **requirements** and build the product roadmap to ensure the **timely delivery** of key features.
- Helped to **migrate** the system to **AWS** and reimplement key components in **Python**.
- Introduced **infrastructure as code** to automate infrastructure changes. This allowed us to replicate the stack across different environments.
- Built a continuous integration and deployment pipeline (**CI/CD**) to automate tests and releases.
- **Mentored** team members in Python, DevOps, AWS, and in Linux server administration. Conducted **interviews** to recruit new team members.
- Designed and led the implementation of a **distributed**, **low latency**, and **highly scalable IoT** gateway. Supported 500k concurrent connections with average throughput of 100k messages per second. The cost of running the new solution was 60% cheaper than the previous solution. Optimised the deployment time of **Ejabberd** servers (80% faster) and wrote custom modules in **Erlang** to optimise performance and reliability.
- Tech stack:
  - **Backend**: Erlang/Ejabberd, Python, Flask, SQLAlchemy + Alembic.
  - **Infrastructure**: AWS, CloudFormation, Docker, ECS, CloudWatch, PostgreSQL, CentOS, Jenkins.

# Education

Ph.D. University of Salamanca, September 2011-2017.

M.A. University of Salamanca, 2010-2011.

B.A. University of Salamanca, 2004-2010.

## Publications & Workshops

**Blog**: https://microapis.io/blog | **Workshops**: https://microapis.io/workshops

Jose Haro, *Microservices APIs*, Shelter Island (Manning), 2022 (https://www.manning.com/books/microservice-apis).

Jose Haro and Peter Verkinderen, "'Find for me!': Building a context-based search tool using Python", in Elias Muhanna (ed.), *The Digital Humanities and Islamic & Middle Eastern Studies*, Berlin (De Gruyter), 2016, pp. 199-232.