👤 CAREER PROFILE

A competent and motivated engineer of highly-available, cost-efficient, fault-tolerant, scalable distributed systems following the solid foundations laid by the AWS Well-Architected Framework. With my knowledge and professional expertise, I can bring leadership, support, and a resourceful mindset to any team. I thrive in taking ownership of challenging problems, following best practices, and aiding my fellows to achieve common goals. I am a philomath, yet I enjoy communicating new insights and seeking ways to help my employer grow. I add value to your organization by ensuring your customers and clients receive the best service possible.

💼 EXPERIENCE

AWS Consultant
October 2021 - today
Self employed

I support developers and entrepreneurs facing issues with Amazon Web Services by,

- Advising on the best course of action given specific scenarios and how the offerings of AWS can solve their needs
- Troubleshooting the issues stagnating their progress during deployment and maintenance
- Advocating for best practices
- Implementing monitoring strategies

The specific areas I am most commonly required to advise are related to DevOps practices,

- CI/CD pipelines (CodeDeploy, CodePipeline, GitHub actions)
- Infrastructure as Code (CloudFormation)
- Serverless Technologies (Lambda Functions, API Gateway, DynamoDB)
- Error identification, troubleshooting

I completed the "Cloud Resume Challenge" by Forrest Brazeal, a comprehensive project targeting many of the most commonly used AWS services and enabling me to showcase my skills in this area without exposing my client's data or infrastructure. Among the services or techniques involved are IaC, Serverless, Source Control, CI/CD, AWS IAM, S3, DynamoDB, CloudFront, and AWS Budgets

Lab Demonstrator
Sep 2017 - Sep 2019
The University of Sheffield, Sheffield, UK

Provided pro-active support to undergraduate and MSc students engaged in practical work, answering their questions, and helping them overcome any problems encountered in Python-based courses, i.e.: Text Processing, Natural Language Processing, Biology-Inspired Computing.

I also did project and exams marking and provided written feedback to the lecturer of any outstanding learning need.

Besides improving my Python teaching skills, this experience strengthened my problem solving and communication skills in a culturally diverse environment.

Java Developer, Tech Lead
May 2013 - Aug 2015
EBCON, Queretaro, MEX

Completed five life-cycles of Java-based electronic invoicing systems and one life-cycle of a C#-based email client tailored to the client's needs.

Designed a few SOAP web service clients.

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AWS CERTIFICATIONS I HOLD

aws certified
Solutions Architect
Associate

aws certified
Developer
Associate

LANGUAGES

English (Professional)

Spanish (Native)

INTERESTS

Cycling

Coffee-tasting

Hiking

Board games

SKILLS & PROFICIENCY

Sofware Development

Python

IaC, Cloudformation

Architected and implemented data migration strategies from legacy and SAP ERP systems to the in-house-developed ERP

I am specially proud of being summoned to act as a tech lead for a team of seven developers implementing a custom ERP system. We overcome the challenges and delivered this high-risk project.

During my last few months here, I also did SAP Basis consultant tasks. I performed system deployments, backups, system copies, refreshes, upgrades, and EhP installation for SAP R3 4.6, SAP ECC 5 and 6, with MS SQL and Sybase ASE backends.

Tech Support
UPEMOR, Jiutepec, MEX

Sep 2011 - Feb 2013

Provided technical support at the Computer Labs of the University.

I did software installations, computer maintenance, and minor tech support for personal computers.

This was in parallel to my undergraduate studies

Web developer
GrupoSol/Intermex, Cuernavaca, MEX

Jan 2008 - Sep 2010

Designed and implemented PHP and MySQL based web sites and portals from the ground up.

Provisioned and managed the infrastructure for those websites during my second year onward.

Initiated the transition from being a print-focused advertising agency with minimal web operation to a web-focused agency with minimal print activity. This change was key for the survival of the business.

PHP developer
MaranathaMX, Cuernavaca, MEX

2002 - Jan 208

Self-learned HTML 4.0 and PHP. Then, I developed several web pages for small business.

My proudest achievement was developing a large portal which eventually became the first version of the web portal for the China-Mexico Chamber of Commerce. This was a three-lingual web portal. At the time of this implementation internationalization was still an exotic area of development.

Contributed to the localization of the Zend framework to Spanish. My involvement took the translated percentaje from 10% to 15%

🎓 EDUCATION

PhD in Computer Science
The University of Sheffield, UK

Sep 2016 - today

An interdisciplinary project in Computer Science and Biology. I apply Agent-Based Modelling to mammalian reproduction research. I develop in-silico models using CUDA and multi core processing in both HPC and commodity hardware.

For data analysis, I primarily use Python, whereas for a few cases I also use R and some commercial packages.

I proposed and led the implementation of a virtual reality serious game out of interest in outreach activities, i.e.: Can we bring this research to the broader audience in a fun and engaging way?

Besides winning a couple of awards at international and local conferences, this product of my research draw the attention of a sector of UK's Higher Education and was invited

DevOps practices

Java

NodeJS (JavaScript)

for demonstration at a series of public talks "Sex-In-Three Cities" at the Universities of Nottingham, Edinburgh, and the Royal Veterinary College in London, sponsored by the Society for Reproduction and Fertility.

- Agent Based Modelling
- Data Analysis
- CUDA, Python

MSc in Computer Science   Sep 2015 - Sep 2016
The University of Sheffield, UK

A Natural Language Processing and Text Processing oriented taught degree. For my thesis, I applied Latent Semantic Analysis (LSA), an instance of topic modelling, to study the Textual Alignment, a form of similarity detection, betwen News and Blog posts.

- Natural Language Processing
- Information Retrieval, Text Processing
- Python, Java

BSc in Informatics / Computer Science   Sep 2010 - Jan 2013
Polytechnic University of Morelos, MEX

For my thesis, I researched the state of the art of and implemented an Adaptive Bidirectional Associative Memmory (ABAM) as proposed by Kosko 1987. Other capstone projects completed during this period include engineering PHP-based CRUD systems for a variety of applications.

- Information processing and analysis
- System design
- Software architecture and development

🗄 PROJECTS

Besides developing out of my interests, I often contribute to open source projects. This section presents the most relevant at the time. For an up to date listing please check my public repositories.

Cloud Resume Challenge - A though hands-on cloud engineering project involving CI/CD, IaC, Serverless, Lambda functions, API Gateway, AWS SAM

al-folio - A beautiful, simple, clean, and responsive Jekyll theme for academics

localstack - A fully functional local cloud stack. Develop and test your cloud and serverless apps offline!

TTTS - A cloud-based touch typing training system for developers/coders

gggaps - R package for improving the visual quality of vertically-challenged plots

FertilizationVR - A Virtual Reality-based serious game product of my PhD. Take the place of a spermatozoon, face a series of obstacles to fertilise an egg while beating others competing in the same task.