Hector David Aguirre Arista

Personal Information

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Profile

Experienced mechatronics engineer and software developer with a strong track record of architecting complex systems and successfully delivering integration projects over 4 years in the field. Proficient in a variety of programming languages, including Go, Python, JavaScript, and Terraform. Well-versed in technologies such as AWS, Docker, and serverless computing. A dedicated lifelong learner with a passion for staying updated with the latest industry trends. Known for exceptional problem-solving skills and a commitment to delivering innovative software solutions.

Professional Experience

Aug 2021 - Feb 2023

Tech Lead
Crehana

As Tech Lead of a 5-member Integrations team at Crehana, I led efforts to integrate Crehana with external platforms, enabling seamless incorporation of external courses from well-known platforms like O'Reilly. Notably, we successfully integrated Crehana with Acsendo, an HR application acquired by Crehana, making it appear as an integrated module. Key accomplishments included *SAML2-based Single Sign-On* implementation, Elasticsearch integration for content search, and the adoption of serverless architecture. I provided leadership and oversaw the team's contributions to improve CI/CD pipelines and implement *GraphQL Federation* and *Microservices Architecture*, fostering innovation and efficiency

Aug 2021 - Nov 2021

Backend Developer
Crehana

Crehana is one of the leading EdTech startups in Latin America. As a member of the Crehana team, I led the integration project between Crehana and SAP Success Factors, SAP's Learning Management System. I orchestrated this synchronization using *AWS Step Functions* to maintain course consistency between the two platforms. Additionally, I established a mechanism to relay course progress data from Crehana to SAP SF. This involved creating events that triggered *lambda functions* utilizing SAP's APIs. To ensure seamless data processing, AWS's *SNS* and *SQS* (with a Dead Letter Queue) were employed. The technology stack for this project included *Python, PostgreSQL, Flask, GraphQL*, and *AWS*

Jun 2021 - Aug 2021

Backend Engineer.
MINSA (Peru's Ministry of Health)

One of the main MINSA's technological projects is "Teleatiendo", a virtual healthcare app, where patients can make medical appointments and doctors can upload prescriptions. Teleatiendo was built using *Django (Python)*, *PostgreSQL* as database and deployed on MINSA's on-premises servers. While working on this project I developed several features that improved the experience on the platform, but the main one allowed doctors to sign medical prescriptions and orders using their electronic identity cards. To build this feature I used *Python, PostgreSQL* and *Nginx* in the backend and *Javascript* on the client side.

Mar 2021 - Jul 2021

Backend Engineer
La Positiva - Digital Transformation Lab

La Positiva is one of the biggest insurance companies in Perú. I worked on several projects that aimed to make access to all the products from La Positiva easier for brokers and end customers. One of these projects was "Mobility", a mobile app where I developed several backend features using *Django (Python)* and *AWS*

Dic 2020 - Mar 2021

Development of a Mobile Training Application about COVID for medical staff located in Peru's jungle native communities
GIZ (German Corporation for International Cooperation GmbH)

GIZ is a German development agency that provides services in the field of international development cooperation. One of the projects of GIZ was to provide a Mobile Training Application about COVID to MINSA (Peru's Ministry of Health), to train and inform the medical staff located in the jungle's native communities. This app includes information about how to manage the pandemic in the context of these native communities. My responsibilities were to develop and deploy the backend that the app consumed. I used *Python* and *FastAPI* as framework, it was deployed in *AWS* using *Docker* containers with a proxy (*Nginx*) and *PostgreSQL* as database. Besides, I also developed the mobile application. For that, I used *Flutter* as framework and synchronization and caching techniques, Since the app was meant to work mainly in offline mode.

Dic 2019 - Feb 2021

Backend Developer
Simple Peru

Simple Peru is a company that builds tailored technological solutions (Web applications, Rest APIs, mobile apps and IoT projects). While working here I have developed several REST APIs using *Python, Flask and PostgreSQL* and also a mobile app for Android and iOS using *Flutter*. I was also responsible for the deployment and architectural design of the Backend Solutions. For that i used *Docker* and the cloud services of *AWS*.

Feb 2019 - Jul 2019

Trainee Supplier Development Engineer
American Glass Products

AGP is a company that produces and designs laminated glass for the main automotive companies of the world, such as Tesla, McLaren, Volkswagen and BMW. Here I had the responsibility to manage and develop the suppliers that the company has. In order to achieve that, I learned about the Automotive Core Tools (Quality Management tools for the Automotive industry) and about Business Intelligence using Power BI. Moreover, I also developed apps using Power Apps and Flow (Microsoft services) that automated certain processes within the company.

Apr 2018 - Dic 2018

Trainee in the Experimental Economics Laboratory
Pontifical Catholic University of Peru

The Experimental Economics Laboratory (LEEX in Spanish) carried on experiments on research related to decision-making. These experiments were conducted on a computer by diverse people in the form of a game. They were programmed using python. Working here I acquired experience using python and in the management of web pages and servers using Amazon Web Services (AWS).

Jan 2017 - Jul 2017

Trainee *Programmer* in
Novatronic

Novatronic is a company specialized in software development and transactional solutions. Working there, I had the chance to participate actively in several software development projects. I developed programs using C, C# and SQL. Moreover, I took part also in the management of these projects, where I was responsible for carried them on correctly.

Mar 2016 - Dic 2016

Professor's Assistant in the *Simulation Tools* lecture of the
Pontifical Catholic University of Peru

The simulation tools lecture aims to teach Mechatronic Engineering students to model 3D objects in software as Inventor an Ansys and to build dynamic simulations and apply Finite Elements Analysis to several machines and structures.

Studies

Mar 2013 - Dic 2018	**PONTIFICAL CATHOLIC UNIVERSITY OF PERU** Mechatronics Engineering Graduated in the top tenth of the students
Oct 2017 - Mar 2018	**UNIVERSITÄT DUISBURG-ESSEN** *Elektrotechnik und Informationstechnik* Exchange Program (Germany)

Languages

Spanish: Mother tongue

English: Advanced
Idiomas Católica

German: B2/1 level completed
Goethe Institut, lima
6 months of exchange program in Germany

Software

Programming Languages

- *Python:* Implementation of machine learning and Artificial Intelligence algorithms and REST and GraphQL APIs using *Flask, FastAPI* and *Django*
- *Go:* Web applications and cli utilities.
- *Javascript:* Simple REST APIs using *Node JS* and frontend using *Vue* and *HTMX*.
- *Terraform:* Deploy systems using IaC.
- *C# :* Applications with GUI development.
- *C:* APIs development and embedded systems programming.
- *C++ :* Applications with GUI and APIs development.
- *Dart:* Apps development with *Flutter*.
- *SQL:* PostgreSQL, MySQL.

Software knowledge

- *Linux based Systems*
- *Git:* Used in software development projects.
- *Docker:* Dockerize applications, usage in CI/CD pipelines and deploy to production and development environments.
- *AWS:* Deployment of backend services and usage of their products (S3, ECR, EC2, SQS, SNS, Step Functions, Api Gateway, etc.).
- *ElasticSearch:* Search engine development.
- LaTeX: Writing academic documents.

Courses

Self Organizing Embedded Systems
Lecture from the Embedded Systems Master
Universität Duisburg-Essen (Germany)

Information Mining
Lecture from the Applied Computing Master
Universität Duisburg-Essen (Germany)

Awards and Achievements

First Place
Jun 2019

5th Hackathon organized by the *National Society of Mining, Oil and Energy* (Peru) and by the Entrepreneurial Development Center of the ESAN University

Solution Dtech: Distributed system for real-time air quality monitoring and early warnings for critical events.

https://perumin.com/perumin34/notas-de-prensa/estudiantes-de-la-pucp-crean-sistema-de-alerta-ante-accidentes-en-minas-subterraneas