Adrián Constante | Data Engineer
GitHub://AdCons
LinkedIn://aconstante

Email : ad_con.reload@protonmail.ch
Mobile : +52 311 226 0149
Website : adcons.github.io

WORK EXPERIENCE

HAVVOX IT | D365 Software Dev Jr
Mazatlán, Sinaloa | February 2022 - February 2023

- I was able to complete at least 30 issues related to bugs, new forms and tables, and the way data was displayed on the Dynamics 365 ERP, which was reflected on the client's satisfaction.
- Using MS SQL Server as DBMS, i developed queries that were used to extract data from the ERP and then use it to create reports and data visualization on Power BI and Excel.
- Other activities were related to the creation of views and stored procedures in order to explain to coworkers in less technical areas how tables were related, which doubled the speed they resolve their tasks, saving them time.
- Another main data responsibility was to create and maintain data entities on the ERP, which were used to import and export data from the ERP to other systems.
- All along Azure Cloud was used to deploy the ERP and other services. Other least frequent technical tasks were writing code documentation then load it to Azure DevOps among my commits. Other days presenting the work to stakeholders before production deploy in the simplest way possible.

CONSEIL EUROPÉEN POUR LA RECHERCHE NUCLÉAIRE | Research Assistant
Meyrin, Switzerland | Nov 2018 - Dec 2018

- Mission was to enhance AD and V0 ALICE's detectors with a proposed new sensor, it was claimed to be more efficient than the current one. Our main goal was to prove in practice that this proposed sensor could be used. As a team, we developed a test bench to measure the performance of the sensor, where my main task was to develop the software to extract, transform and load data from the sensor.
- High-end oscilloscope measures were done to proof UAS proposed sensor could be used. All of this was done on C++, Python and ROOT. We finally obtained an increase of 15% of the number of particles detected per second which led to higher quality data representation. Hence the project was in count for the next cycles of upgrades of ALICE.

UNIVERSIDAD AUTÓNOMA DE SINALOA | Research Assistant
Culiacán, Sinaloa | Sep 2018 - Oct 2018

- An electronic SMD board with a 10-bits 1 Gbps LVDS ADC was repaired with help of oscilloscope and review of the schematic and PCB design. We described the LVDS and HSMC protocol on FPGA to read data from the repaired board in order to make it work as planned. All of this on VHDL.
- It was prep work for the next project which was to include the measurement module in ALICE at CERN. We decided roles, i was chosen to develope data pipeline to make data analysis possible once in CERN.

CINVESTAV DEL INSTITUTO POLITECNICO NACIONAL | Research Assistant
Zapopan, Jalisco | Nov 2017 - Dec 2017

- The project was called "Haptic Robot Arm for Rehabilitation of the Upper Limbs". It was aimed to help kids with rehabilitation of their entire superior members. Robot was able to achieve an increase of 10% of the strength of the kids' both arms.
- We did robotic related calculations and desing as we worked on Automatic Control area. Python and MATLAB was used by me to do the data modeling and calculations. I was in charge of simulation and data visualization which were done in Tableu. Finally we used SolidWorks to do the 3D modeling of the robot.

EDUCATION

MSc. Computer Science
Zapopan, Jalisco |
Centro de Investigación y Estudios Avanzados del Instituto Politécnico Nacional
Coursework: Software Engineering, Data Structures and Algorithms, Machine Learning, Distributed Systems

BSc. Biomedical Engineering
Mazatlán, Sinaloa |
Universidad Politécnica de Sinaloa
Coursework: Databases, Object Oriented Programming, Image & Signal Processing, Time-series data.

MAJOR PROJECTS

ELECTRONIC HEALTH RECORD SYSTEM(2020)

Blockchain, IPFS, Cloud Computing, Agile

- Agile methodology to put to work a distributed database about EHR, ensuring the fidelity and secrecy of patient data. **I was taking care to launch the access control on who can CRUD patient and medical workers data and how data was retrieved to get uploaded to the distributed storage IPFS**.
- The Ethereum Smart Contracts needed were developed with Truffle framework, once ready deployment was done on Kovan Etherum testnet and IPFS storage.

FACIAL GESTURE-DRIVEN WHEEL CHAIR(2018)

OpenCV, CNN, Python, Data Pipelines, Tableu, Machine Learning

- A special electric wheelchair was build for quadriplegic people using computer vision and deep learning (CNN). **Results were 90% accurate**, which were visualized on Tableu among other parameters. **I was in charge of the data acquisition and the data pipeline to train the model**. We used and trained a PyTorch image classifier, ResNet18.

SEAHAWK: SECURITY FOR MAZATLAN'S BEACHES(2018)

OpenCV, CNN, AWS, Python, Cloud Computing, Machine Learning

- Project was a computer vision system able to recognize if people were too off the coast. Main idea was to help lifeguards in Mazatlan Beaches so we used a Mask-RCNN implemented on TensorFlow.
- **My main task was to segment the video between beach, sea, and people**, then with help of my team train the model on AWS instance. We won a hackathon with it.

A HAPTIC ROBOT ARM(2017)

Robotics, Control Theory, MatLab, Arduino

- Main mission was to develope the firmware of a planar haptic robot arm to help kids with rehabilitation of their entire superior members. The robot was designed and manufactured with help of SolidWorks.
- **I coded routines like circle movements to help them to improve, then retrieve data to measure how their improvement was**. PID control and robotics calculations were done on MATLAB and Arduino.

SKILLS

Languages: Python, SQL, NoSQL
Cloud: AWS, Azure, Snowflake
Certifications: Google Data Analytics, Azure Developer Associate
Hardware: Raspberry Pi, Internet of Things

Databases: SQL Server, MongoDB, PostgreSQL, MySQL
Tools: Git, Tableu, Power BI, Excel
Libraries: Spark, Kafka, Hadoop, Airflow
Other: Agile, Github, Azure DevOps, GitLab