Diego Arnoldo Azuela Rosas

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WORK EXPERIENCE

Tesla Inc, *Test Engineer*   California, USA | **December 2023 – Current**
Project: *EOL – Bento Line*
- Sustaining and bring-up of a bi-directional ACDC converter production line, improving systems that delivered high first-pass yield while driving line improvements of Software (Go) and Hardware.

Project: *Floating Connectors*
- Development of new Test Station aimed at verifying ECUs data transfer and versioning using shell scripting and Pytest.

Tesla Inc, *Associate Test Engineer*   California, USA | **March 2023 – November 2023**
Project: *EOL Japan Tester – Bento Line*
- Supported testing cycle-time reduction by 66% on energy product bound for the Japanese market, reducing project costs by 50%. Product testing included harmonics, magnitude over-frequency trip, passive anti-islanding, etc…

Project: *Single Break – Qbert Line*
- Improved UDP signal analysis station to detect true hardware errors by triggering self-test alerts, preventing down-time on the main line.

Project: *Firmware Flash Stations*
- Debugging and optimization of Python code used to flash the firmware on individual ECUs. As well as the development of shell scripts to optimize data acquisition and result analysis.

Expeditors International, *Associate BI Developer*   Monterrey, MX | **October 2022 – January 2023**
Project: *Solutions Development*
- Development of templates and solutions by leveraging Power BI, MySQL and Python to rapidly visualize KPIs, trends, and performances.

INTERNSHIP EXPERIENCE

Carrier Global Corporation – Carrier, *QA Digitization Intern*   Monterrey, MX | **January 2021 – June 2021**
Project: *Reporting using Power BI.*
- Acquired data from primary and secondary sources, applying descriptive data analysis with the use of Python to handle high-volume of variables into meaningful findings and insights using Power BI. Prioritizing business, economics, and information needs.

Project: *NLP for Component Failure Forecasting.*
- Laid foundations for forecasting the root cause of component failures in the field by implementing a Natural Language Processing (NLP) algorithm by understanding technical assessment accuracy and historic data, using Python libraries (Pandas, NumPy, Nltk).

Project: *Process Automation with Web Scraping.*
- Obtained 73% in time optimization reporting field-related failures by programming a web scraping algorithm hosted in AWS, mining databases (data mining) using Selenium.
  - Project was scaled up to 8 center operations between Mexico and the United States due to increase accuracy and efficiency.

Frigus Bohn - FB, *Semester I Intern*   Monterrey, MX | **August 2020 – December 2020**
Project: *Warehouse Management System (WMS) Dev*
- Engineered a custom Warehouse Management System (WMS) using Visual Studio and MySQL, yielding a 34% improvement in time efficiency, and ensuring robust product traceability through the integration of existing hardware (QR codes, QR scanners, industrial scales) and software (MySQL) tools.

Owens Illinois – OI, *Logistics Intern*   Monterrey, MX | **June 2019 – October 2019**
Project: *Logistics coordination*
- Executed hands-on coordination of transnational logistics operations, facilitating communication between American and Mexican divisions, managing multiple product lines within stringent timeframes.

RESEARCH EXPERIENCE

Shin Laboratory - Harvard Medical School & BWH, *Research Trainee*   Cambridge, USA | **July 2021 – February 2022**
Principal Investigator: *Su Ryon Shin Ph.D.*
Project: *Robotics and Computer Vision System Development.*
- Tailored a robotic arm to be controlled through computer vision techniques supported by OpenCV, PyVista and Canny contour detection (Otsu parameters) by merging point cloud images obtained through a depth camera using 90 fps for rapid and accurate decision-making.

Space Makers – ITESM, *Control and Electronics Member*   Monterrey, MX | **March 2019 – December 2020**
Project: *Synthesis of Bio-nano Polymers to Improve the Surface Barrier*
- Collaborated in the design of electronic and control systems (I2C) destined for a 12-month long experiment intended to test chemical and physical properties of current aerospace food preservation solutions. Project to be hosted in the International Space Station.

INDI, *Control and Electronics Member*   Monterrey, MX | **August 2019 – December 2019**
Project: *Alice Exoskeleton*
- Collaborated in the development of a PID controller run in Arduino (C++) for functional pediatric exoskeletons used in clinical rehabilitation. At the same time created iterative manufacturing of prototype in PLA and Carbon Fiber + Nylon.

PUBLICATIONS

Advanced Materials Technologies   **2024**
- Jeong, S.-H., et al. "Intelligent In situ Printing of Multimaterial Bioinks for First-Aid Wound Care Guided by Eye-In-Hand Robot Technology." Advanced Materials Technologies. https://doi.org/10.1002/admt.202400060

ACS Sensors   **2024**
- Rezaei, Z., et al. "Noninvasive and Continuous Monitoring of On-Chip Stem Cell Osteogenesis Using a Reusable Electrochemical Immunobiosensor." ACS Sensors Article. https://doi.org/10.1021/acssensors.3c02165

CONFERENCE EXPERIENCE

CONACES   **August 2020**
- Speaker at the first National Congress of Space Activities (CONACES) organized by the Mexican Aerospace Agency presenting *Synthesis of Bio-nano Polymers to Improve the Surface Barrier.* Electronic and control system design for a year-long aerospace experiment testing food preservation solution.

EDUCATION

Monterrey Institute of Technology – ITESM   Monterrey, MX | **2017 – 2022**
- B.Sc. in Mechatronics Engineering. **3.73/4.00 GPA**
- Relevant Courses**:** *Microcontrollers, Industrial Robotics, Computational Intelligence, Computer Science, Machine Learning (Data Analytics), Advanced Mathematics, PLC control*

Pennsylvania State University – PENN STATE   Abington, USA | **2016- 2017**
- B.Sc. in Mechanical Engineering. **3.75/4.00 GPA**

SKILLS

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Language: English - TOEFL ITP 640, Spanish – native.

Technical Skills: Python, Golang, Ubuntu, Docker, MySQL, Power BI, LabView, MATLAB, COMSOL Multiphysics, LTSpice, EasyEDA, CI/CD, SAP.