

Sergio Jacobo-Zavaleta

100514566g@alumnos.uc3m.es

EDUCATION

Master in Robotics and Automation

Carlos III de Madrid, Madrid, Spain

September 2024 - ongoing

Bachelor of Science in Mechatronics Engineering

Universidad Nacional de Trujillo, Trujillo, Peru

April 2014 - December 2018

- Thesis title: **Modelamiento y simulación de un robot clínico asistido por Ultrasonido 3D para mejorar el guiado de inserción de agujas en biopsia percutánea de mama.**
- Third-class rank.

PROFESIONAL EXPERIENCE

Maintenance Assistant of biomedical equipment (Full-time)

Corporación Tecnobiomédica Healthcare del Perú SAC. — Medical equipments, Lima, Peru

November 2020 - April 2021

- Programmed and adapted preventive maintenance plans of old and out of date equipments based on user's experience.

Maintenance Assistant (Full-time)

Norsac SAC. — Textile Industry, Trujillo, Peru

May 2019 - November 2019

- Formulated and collected the effects of implementing new engineering-based features in their Integrated System of Management by reducing time of up to 50% in communication between Maintenance and Logistic Areas.
- Provided an updated version of the plant's electrical power distribution system for facilitating manipulation, testing and equipments installation in less than a month.
- Reduced distribution time of maintenance assignments of up to 90% within the staff by computationally automating the management of preventive maintenance plan.

RESEARCH EXPERIENCE

National researcher Lima, Peru

April 2023 - Present

Enabled and registered in the National Scientific Register (RENACYT). Code: P0153371

Technological projects about prevention and assistant in patients with COVID-19 Trujillo

March - October 2019

Funded by the Universidad Nacional de Trujillo

- Collaborated in the implementation of digital thermometers and automated cleaning system at low cost by applying reverse engineering to produce a new, compact module-

base design. Due to commercial limitations for importing specific electronic parts, the unit sales prices were up to 150% of the market prices.

- The initial prototype and testing of an Arduino-based design resulted in the enhancement of microcontroller-based control for devices that require long battery life up to 8 hours of continuous use.

PUBLICATIONS

- Jacobo-Zavaleta, S., & Zavaleta, J. (2023a). Needle placement for robot-assisted 3D-guided ultrasound breast biopsy: A preliminary study. IEEE Latin America Transactions, 21 (3). [Link](https://doi.org/10.1109/tla.2023.10068849). <https://doi.org/10.1109/tla.2023.10068849>
- Jacobo-Zavaleta, S., & Zavaleta, J. (2023b). A Deep Learning Approach for Epilepsy Seizure Identification Using Electroencephalogram Signals: A Preliminary Study. IEEE Latin America Transactions, 21 (3). [Link](https://doi.org/10.1109/TLA.2023.10068845). <https://doi.org/10.1109/TLA.2023.10068845>
- Zavaleta, A., Nuflo-Vásquez, S., Alarcón-Turiani, V., & Jacobo-Zavaleta, S. (2023). Serie de casos de conducta suicida atendidos en un centro de salud del norte del Perú. Norte Médico, 1 (5), 27–30. [Link](#).
- Jacobo-Zavaleta, S., Zavaleta Gavidia, W., & Zavaleta Gavidia, V. (2022). Deep learning y enfermedades oculares. Norte Médico, 3 (2). [Link](#).
- Zavaleta de Los Ríos, V., Jacobo-Zavaleta, S., & Zavaleta Gavidia, V. (2022). Microbiota intestinal y las enfermedades neurodegenerativas. Norte Médico, 1 (2). [Link](#).

HONOURS AND AWARDS

- **Recognition for technological projects about prevention and assistant in patients with COVID-19**
Universidad Nacional de Trujillo
October 2020
- **Third place in Final Merit List of Undergraduate Program**
Universidad Nacional de Trujillo
October 2020
- **Recognition to the project “Production of Electrical Energy through a Helical Wind Turbine using wind’s velocities until Grade 2 in Beaufort Scale”**
José Faustino Sánchez Carrión High School
December 2018
- **Recognition to the project “Production of Electrical Energy through a Helical Wind Turbine using wind’s velocities until Grade 2 in Beaufort Scale”**
December 2010

EXTRA CURRICULAR ACTIVITIES

INDEPENDENT TUTOR

- **Private Maths and English tutor**

VOLUNTARISM

- **Citizen monitor**
Escuela Nacional de Control - Contraloría General de la República del Perú.
January 2022 – Present
Monitored public-financed projects to report evidence of incidents of non-compliance.

PROVISION OF SERVICES

- **Examination monitor**
Minister of Education, Cajamarca, Perú.
November 2022 - Present
Collaborated and moderated teacher evaluation processes for service examination.

REFERENCES

Available upon request