



JESUS ARMANDO CRUZ RODRIGUEZ

SOFT SKILLS

- Adaptation capacity
- Autonomy
- Responsibility
- Oral and written communication
- Teamwork
- Curiosity

OTHER SKILLS

- Softwares: Matlab, Python, R, SolidEdge, SolidWorks
Plastics and Microsoft Office
- Certification in additive fabrication by Dassault Systems.

LANGUAGES

- Spanish: native speaker
- French: C1 certification
- English: C1 certification
- Portuguese: A2

HOBBIES

- Cinema
- Playing guitar
- Football (american and soccer)

MATERIALS ENGINEER - PHD STUDENT IN LI-ION BATTERY SAFETY

Mission: To apply the acquired academical and laboral knowledge to develop useful projects for the industry and the community, looking for the continuous improvement of my work field.

PROFESSIONAL EXPERIENCE

RESEARCH ENGINEERING - PHD WORKS IN BATTERY SAFETY & MODELING | 2024-2027

IFP ÉNERGIES NOUVELLES (IFPEN) | SOLAIZE
UNIVERSITÉ GUSTAVE EIFFEL (UGE) | BRON

Enhancing Li-ion battery safety under cold/fast charging conditions.

- Battery cycling equipment and ageing protocols.
- Electrochemical techniques (EIS, ICA).
- Characterization techniques (SEM, RMN, LIBS, Computed Tomography).
- Battery safety testing (ARC, HPHT vessel).
- Finite element modeling (COMSOL Multyphysics).
- Data processing and simulations (Python, Matlab).

INTERNSHIP IN RESEARCH AND DEVELOPMENT DEPARTMENT | MARCH - AUGUST 2023

IFP ÉNERGIES NOUVELLES (IFPEN) | SOLAIZE

Fabrication of microporous materials capable of capturing lithium ions from saline water for lithium extraction process.

- Synthesis of microporous composites (powder processing).
- Characterization techniques (DRX, ICP, isothermal adsorption).
- Use of titration techniques.

INTERNSHIP IN RESEARCH AND DEVELOPMENT DEPARTMENT | MAY - SEPTEMBER 2022

MATERIALS ENGINEERING & CORROSION MANAGEMENT (MECM), SUBSIDIARY OF THE FRENCH CORROSION INSTITUTE | SOLAIZE

Study of localised corrosion of stainless steels used in the petroleum extraction facilities.

- Corrosion techniques (Three-electrode setup and OCV).
- Saline solution preparation.
- Pitting characterization (Optical microscope).

ACADEMIC FORMATION

DOCTORAL DEGREE IN THERMAL AND ENERGY STUDIES

2024 - PRESENT

ÉCOLE DOCTORALE MÉCANIQUE, ÉNERGÉTIQUE, GÉNIE CIVILE ET ACOUSTIQUE (ED MEGA) DE L'UNIVERSITÉ DE LYON

DOUBLE DEGREE PROGRAM IN MATERIALS SCIENCE AND ENGINEERING

2017 - 2023

INSTITUT NATIONAL DES SCIENCES APPLIQUÉES (INSA) DE LYON - UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN (UANL)

- Master's degree in Materials Science and Engineering - INSA de Lyon.
- Materials Engineering degree - UANL