JAVIER SALES-ORTIZ

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EDUCATION

M.Sc. Computing Science (Thesis based) *Fall 2021 - Present*
University of Alberta *Edmonton, Canada*
Research Areas: Optimization, Control and Machine Learning for Renewable Integration in the Grid

B.Sc. Engineering in Mechatronics and Production *2015 - 2020*
Iberoamerican University *Mexico City, Mexico*
Received *Academic Excellence Award* – Highest GPA of graduating class.

Study Abroad Program *Fall Semester 2017*
University of New South Wales *Sydney, Australia*
Relevant Courses: Foundations of Concurrency, Microprocessors and Interfacing.

WORK EXPERIENCE

Graduate Research Assistant May 2023 - Present
University of Alberta *Edmonton, AB*
- Independently collaborated with lead researcher to develop a conference paper on algorithms for increasing grid reliability in the context of electric vehicle charging, accepted in ACM's eEnergy '23 (see publications below).
- Presented the paper at the eEnergy'23 conference in Florida, USA. Assumed the responsibility of representing the research team in front of an international audience of experts.
- Involved in conducting simulations, experimental work, literature review, and comprehensive analysis.
- Presented research findings to EPCOR, an international utility company, highlighting the applications and implications of the developed algorithms.

Graduate Teaching Assistant Sep. 2021 - Apr. 2023
University of Alberta *Edmonton, AB*
- Designed lab. assignments as part of a team effort with other TA's. Focused on applying the course concepts in a challenging and approachable setting. Specifically, controlling a simulation of a robotic arm in MATLAB.
- Presented seminars and lab. lectures to groups of up to 70 upper-year Comp. Sci. undergraduates in the Numerical Methods course, in-person and online modalities.
- Guided students individually in preparation for course exams and assignments, reinforcing their study habits with "learning how to learn" techniques.

Junior Data Scientist Nov. 2020 - Jul. 2021
Intelimetrica *Mexico City*
- Conducted research on new algorithms to detect operation critical events on timeseries geospatial data. Used to expand the functionality on a commercial vehicle routing and monitoring platform.
- Automated data quality reports regarding the creation and maintenance of an Azure Data Lake. Valuable tool for communicating progress to the client.
- Contributed to large existing codebases using version control software (BitBucket), and collaborating with teammates using the SCRUM development framework.

Junior Consultant, Data Science Feb. 2020 - Nov. 2020
Management Solutions *Mexico City*
- Evaluated performance and verified the implementation of high impact prediction and decision models used for personalized credit card offerings for a multinational Spanish banking firm.

Database Volunteer Internship Summer 2019
Yomol A'tel *Chilón, Chiapas, Mexico*
- Served as a volunteer for a small coffee cooperative supporting local indigenous communities in south Mexico.
- Ground-up development of a database system that centralizes the organization's information in order to generate KPI's and aid the executives' decision-making process.

Undergraduate Research & Teaching Assistant Jun. 2016 - Dec. 2019

Iberoamerican University, Institute of Applied Research and Tech. (InIAT) *Mexico City*

- Responsible for conducting experimental tasks such as programming embedded systems on mobile robots, automation of result recording, construction and maintenance of physical prototypes.
- Collaborated as a co-author and had the opportunity to present a robotics research paper at IEEE's MWSCAS 2019 conference (see publications below), showcasing my ability to effectively communicate research findings.

PROFESSIONAL DEVELOPMENT

- **AI Career Accelerator Participant (Amii, Edmonton AB, 2022):** Contributed 60+ hours of work-integrated learning by developing code demonstrations for various online Machine Learning course focused on developing effective solutions such as best practices, recording experiments, creating pipelines, connecting to databases and deploying to cloud services (*AWS*).
- **Fundamentals of Reinforcement Learning by University of Alberta (Coursera, 2021):** On the theory and practice of studying agents. Topics including: Markov Decision Processes, value functions and multi-armed bandits.
- **Machine Learning by Stanford University (Coursera, 2019):** On the main models: Regression, SVM's Neural Nets, and assignments on spam classifiers, optical character recognition and recommender systems.

TECHNICAL SKILLS

Programming	Python, MATLAB, C, C++
Python Libraries	Tensorflow, Pytorch, Sci-kit Learn, Pandas, Matplotlib, Cvxpy
Databases	MySQL, PySpark, SAS, MS Access
Software	Linux terminal, Git/GitHub, Jupyter Notebooks, MLFlow

PUBLICATIONS

- Saidur Rahman; Javier Sales-Ortiz; Omid Ardakanian, "Making a Virtual Power Plant out of Privately Owned Electric Vehicles: From Contract Design to Scheduling", ACM International Conference on Future Energy Systems (e-Energy '23). Association for Computing Machinery, New York, NY, doi: 10.1145/3575813.3597353
- J. C. Sales-Ortiz; J. F. Ciprián-Sánchez; E. G. Hernandez-Martinez; *et. al.*, "Leader-follower Strategy based on Distance and Heading Angles using Local Vision," *2019 IEEE 62nd International Midwest Symposium on Circuits and Systems (MWSCAS)*, Dallas, TX, USA, 2019, pp. 1097-1100, doi: 10.1109/MWSCAS.2019.8885046.