

Edgar Covantes Osuna

☎ +52 (669) 270 8710 📁 Portfolio ✉ edgarcovantes@gmail.com 🌐 edgar-covantes-osuna
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TECHNICAL SKILLS

Programming Languages: Python, R, C, C++, PHP, Java, Go, SQL.

Libraries and Tools: Keras, TensorFlow, Sklearn, SciPy, Pandas, Numpy, Git, Drupal, CakePHP, jQuery.

Data visualization tools: Tableau, Matplotlib, Power BI with DAX, and Power Query and M Formula Language, Looker (and LookerML) and PGF/TikZ.

AI skills: Strong understanding of ML algorithms, including supervised, unsupervised and deep learning (e.g., DNN, CNN, LSTM), intelligent search agents (e.g., heuristics, metaheuristics, deterministic and randomized search algorithms).

Cloud computing platforms: Familiarity with cloud computing platforms (e.g., [Azure](#), [Google Cloud](#)) and containerization technologies (e.g., Docker, Kubernetes).

Other Technical skills: Strong understanding of Statistical (including hypothesis testing) and Probability concepts, Complexity Theory, Algorithms, Google Sheets, Microsoft Excel, Relational databases, \LaTeX .

WORK EXPERIENCE

Data Scientist

Heineken México, Nuevo León, México

January 2024 - Present

- Leverage advanced analytics and machine learning techniques to extract insights from data and drive informed decision-making across the organization.
- My main responsibilities are:
 - * Assist in the development and implementation of predictive models and machine learning algorithms to solve business problems and drive strategic initiatives.
 - * Support other data scientists and analysts in conducting data analysis, exploring datasets, and extracting actionable insights.
 - * Evaluate model performance using appropriate metrics and techniques, iterating on models to improve accuracy and reliability.
 - * Collaborate with cross-functional teams to understand business requirements.
 - * Design and conduct experiments to test hypotheses and validate estimated benefits.
 - * Translate new innovations into data driven solutions.
 - * Stay updated on industry trends, emerging technologies, and best practices in data science to maintain a cutting-edge approach.

Research Professor

Instituto Tecnológico y de Estudios Superiores de Monterrey, Nuevo León, México

July 2019 - December 2023

- **Research Area:** Applied Mathematics, Data Science, Machine Learning and Multi-objective Optimization.
- **Lectures:** Advanced Algorithms Analysis and Design, Development of Advanced Applications of Computer Science, Implementation of Computational Models, Design of Intelligent Agents, Analysis of Systems Based on Knowledge.

Software Engineer Jr

Continental Automotive (Telematics), Jalisco, México

August 2014 - July 2015

- Design, coding, integration, verification and/or testing for Continental's software products. Technical support to clients, division and production products. Participation in all stages of the development process.

Software Engineer

Softtek, Jalisco, México

March 2011 - September 2011

- Developer and/or programmer as a Backup on the .NET framework for Hewlett-Packard (HP).

Trainee

TATA Consultancy Services (TCS), Jalisco, México

September 2010 - March 2011

- Trainee in the area of WEB development and programming. Technical support in the project GE Support Central.

Backend Developer

DATAWINS, Sinaloa, México

April 2010 - September 2010

- Backend Developer (PHP, Drupal, CakePHP, JQUERY).

EDUCATION

University of Sheffield <i>Ph.D. in Computer Science</i>	Sheffield, UK 2015 - 2019
Autonomous University of Sinaloa <i>Master in Information Sciences</i>	Sinaloa, México 2011 - 2013
Polytechnic University of Sinaloa <i>Bachelor of Science in Engineering (Computer Science)</i>	Sinaloa, México 2006 - 2009

COURSES AND CERTIFICATIONS

Google Cloud Data Analyst Learning Path. Google Public Profile	May 2024
Google Google Data Analytics.	April 2024
Google Cloud Machine Learning Engineer Learning Path. Google Public Profile	February 2024
University of Michigan Python for Everybody Specialization.	July 2021
DeepLearning.AI DeepLearning.AI TensorFlow Developer Specialization.	August 2020
Sun Microsystems Sun Certified Programmer for the Java 2 platform, standard edition 5.0.	July 2009

PROJECTS

- **On the utilization of pair-potential energy functions in multi-objective optimization**, We designed a deep neural network (DNN) that predicts an appropriate value or the parameter α in the so-called pair-potential functions taking into account the geometry, dimensionality, and cardinality of a Pareto front approximation. [URL](#) [GitHub](#)
- **Improvement of Multiobjective Evolutionary Optimisation Methods to Solve Portfolio Problems for Government Projects in Large Instances**. Member of a team focused on developing tools based on multiobjective evolutionary optimisation methods to solve portfolio and decision-making problems for Government projects.

PUBLICATIONS

- Journal and Conference papers: [Google Scholar](#) [Orcid ID](#) [Scopus](#)

AWARDS

- **National Researcher Level 1 (Financial Support for researchers)** by the CONAHCYT (the Mexican National Council for Humanity, Science and Technology) - 2013 - Present.
- **Candidate Level (Financial Support for researchers)** by the CONACYT (the Mexican National Council for Science and Technology) - 2020 - 2022.
- **Best paper award nomination in the track 'Genetic Algorithms'** at GECCO '18 - July 2018.
- **Best Graduate Thesis 2014 Award in the Master's category (honourable mention)** by the INAPI (the Institute for Research and Innovation Support) - May 2015.

EXTRACURRICULAR ACTIVITIES

- **Demonstrator/Teaching Assistant** at the University of Sheffield - 2015 - 2018.
- **Programme Committee** at the Genetic and Evolutionary Computation Conference (GECCO) - 2016 - 2018.

LANGUAGES

- **Spanish**: Native
- **English**: Professional