

# Edgar Covantes Osuna

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[edgarcovantesosuna](https://github.com/edgarcovantesosuna) [k edgarcovantesosuna](https://www.kaggle.com/edgarcovantesosuna) [edgarcovantesosuna](https://www.edgarcovantesosuna.com)

## TECHNICAL SKILLS

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**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,  $\text{\LaTeX}$ .

## WORK EXPERIENCE

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### 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.

### 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

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### University of Sheffield

Sheffield, UK

Ph.D. in Computer Science

2015 - 2019

### Autonomous University of Sinaloa

Sinaloa, México

Master in Information Sciences

2011 - 2013

### Polytechnic University of Sinaloa

Sinaloa, México

Bachelor of Science in Engineering (Computer Science)

2006 - 2009

## COURSES AND CERTIFICATIONS

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### 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

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- **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  $\alpha$  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

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

## AWARDS

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- **National Researcher Level 1 (Financial Support for researchers)** by the CONAHCYT (the Mexican National Council for Humanity, Science and Technology) - 2023 - 2024.
- **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

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

## LANGUAGES

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