

Carlos Urteaga Reyesvera

Mexico | 🏠 carlos.urteaga@outlook.com | 🌐 <https://urteaga.tech> | 📷 CarlosUrteaga

Education

- 2023 – Present **Universidad Americana de Europa (UNADE) Remote, Mexico**
PhD student in Computer Science
Research Focus: Evaluation of AI Agent Maturity.
- 2016 – 2017 ° **Instituto Tecnológico Autónomo de México (ITAM), Mexico City, Mexico**
Master in Computer Science
Thesis: Predictive model for microcredit churn using feature engineering and machine learning (ML).
Advisor: Dr. José Alberto D. Incera Diéguez,
- 2007 – 2015 ° **Instituto Tecnológico Autónomo de México (ITAM), Mexico City, Mexico**
Bachelor's Degree in Telematics Engineering
Thesis: Classification of venomous vs. non-venomous scorpions using computer vision and ML in a mobile application.
Advisor: Dr. André Possani Espinosa.

Research Experience

- Jan/16 – May/16 **ITAM – Microsoft Research.**
Project: Analyze the impact of multitasking in the final note for a subject.
Supervisor: Jaime Puente.
Cleaned OS activity logs in Python to quantify daily distractions per student and relate them to final grades.
- Aug/15 – Dec/15 **ITAM – Federal Telecommunications Institute (IFT),**
Project: Mobile-network audit (quality of service)
Supervisor: José Alberto D. Incera Diéguez.
Developed an iOS app to capture tower metadata (Cell ID, RSSI) for audit dashboards.
Project: Fiber-network design.
Supervisor: Dr. Ante Salcedo González.
Built a GIS vector routing workflow to compare alternatives and improve siting decisions.
- Jan/14 – Aug/15 **Department of Digital Systems, ITAM.**
Project: Polaroid tablet differentiation.
Supervisor: Dr. André Possani Espinosa.
Customized Android to preload in-house apps; validated UX in a five-person team.
Project: Behavior in ascending radio-spectrum auctions.
Supervisor: Dr. Enrique Melrose Aguilar.
Implemented real-time auction logging and an Azure web service; refined the analyst UI.

Teaching Assistant (TA)

- Aug/13 – Aug/18 **Teacher Assistant, ITAM**
Course: Mechatronics principles Laboratory.
Course: Computer Networks
Course: Engineering Introduction

Publications and Contributions

- 2016 Urteaga-Reyesvera, J. C., and Possani-Espinosa, A. (2016, February). Scorpions: Classification of poisonous species using shape features. In 2016 International Conference on Electronics, Communications and Computers (CONIELECOMP), pp. 125-129. IEEE
- 2015 Intellectual property rights transferred to ITAM for mobile applications.

Professional Experience

- Mar/19 – Present **Globant**, Senior Data Scientist
- Enhanced an enterprise chatbot by integrating **Retrieval-Augmented Reasoning** (RARE), improving contextual grounding and answer consistency.
 - Built an **AI agent** for Project Manager delivery tracking; orchestrated multiple REST APIs and document sources to auto-update statuses and internal records.
 - Fine-tuned a **GPT-2** model for semantic classification of financial statements, achieving a **20 %** performance uplift vs. baseline.
 - Designed and deployed an internal **LLM interface** using **RAG** (*FastAPI+Python*); standardized prompt/response schemas and retrieval policies.
 - Conducted **traffic scalability tests**, validating stability from **3,000** to **30,000** concurrent sessions and informing capacity planning.
 - Coordinated **GPT workflow automation** with prompt engineering via **AutoGen**, enabling efficient summarization of legal documents at scale.
 - Led adoption of **MLOps practices** (CI/CD/CT/monitoring), improving observability, reproducibility, and cost/performance governance of models.
 - Deployed a **real-time face recognition and people-counting** stack (*Keras+Flask*) for large facilities; achieved **90 %** operational accuracy.
 - Built a **domestic-violence recidivism** model (feature engineering + *XGBoost* with random search) in collaboration with the Chicago Crime Lab; reached **82 %** accuracy
- Sep/18 – Mar/19 **Gentera**, Head of Data Science
- Improved customer-behavior **ML models** with *Python+H2O AutoML*, raising ROC-AUC by **+0.15** absolute vs. baseline.
 - Developed and shipped **production** credit-default and churn models with CI/CD, feature/version control, and monitoring (latency, drift, SLA).
- May/18 – Aug/19 **Telcel**, Data Scientist
- Oct/17 – Apr/18 **KPMG**, Information Security Consultant
- Aug/10 – Oct/17 **ITAM**, Laboratory Assistant

Courses

- 2025 AI Agents in LangGraph, DeepLearning.ai.
AI Agents Fundamentals, Hugging Face
AI Agents in LangGraph, DeepLearning.ai
Building AI Voice Agents for Production, DeepLearning.ai
Building Code Agents with Hugging Face smolagents, DeepLearning.ai
Functions, Tools and Agents with LangChain, DeepLearning
LangChain for LLM Application Development, DeepLearning
Attention in Transformers: Concepts and Code in PyTorch, DeepLearning
How Transformer LLMs Work, DeepLearning.ai
Success, Coursera
Machine Learning Engineering for Production (MLOps) Specialization, Coursera
Improving Communication Skills , Coursera
Building Code Agents with Hugging Face smolagents, DeepLearning.ai
Complete MLOps Bootcamp | From Zero to Hero in Python 2022, Udemy
MLOps (CI/CD) & Azure Machine Learning, Udemy
Intermediate Python, DataCamp
Introduction to Python, DataCamp
Applied Machine Learning, Emeritus

- Neural Networks and Deep Learning , Coursera
- Structuring Machine Learning Projects , Coursera
- 2018 Applied Machine Learning, Columbia University.
- 2012 Mobile application design and development. ITAM.

Awards and Scholarships

- 2017 First place in Internet of Things Hackathon using FIWARE.
- 2017 Selected for FIWARE Trainer Workshop.
- 2016 Participated in Autonomous Cars Workshop, Freie Universität Berlin.
- 2014 Semifinalist, MIT Global Founder's Skills Accelerator.
- 2013 Semifinalist, Reto Samsung TV mobile app contest.
- 2013 Third place, App Latina – Intel mobile app contest.
- 2013 Semifinalist, Premio Santander a la Innovación entrepreneurship contest.
- 2011 First place, Mexican Robocup Open — IEEE Micro Mouse Labyrinth (Arduino-based).