

ALEXA MARTINEZ SOTO

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EDUCATION

Master's Degree in Applied Economics | School of Government and Public Transformation | Sep 2023 – Dec 2025

- Awarded a full (100%) merit-based scholarship for outstanding academic performance.
- Thesis: Knowledge Graph of Mexico City's Legal Documents — Constructing a knowledge graph to map relationships between local regulations

BA in Governance and Public Transformation | Tecnológico de Monterrey | Aug 2019 – Jul 2023

- Dual major in data science for public good.

PROFESSIONAL EXPERIENCE

Senior Research Programmer | Tecnológico de Monterrey | Oct 2025 – Present

- Implemented and calibrated the SISEPUEDE framework (Simulating Sectoral Pathways and Uncertainty Exploration for Decarbonization) to design country-specific decarbonization pathways supporting net-zero objectives for Latin American nations.

Data Scientist | UN-Habitat | Aug 2024 – Jul 2025

- Designed and co-led ETL pipelines to process mobile ping data for 100 cities, supporting the construction of multidimensional quality of life indices to inform equitable urban governance and evidence-based policymaking
- Led web scraping and NLP pipelines to collect, clean, and vectorize laws and strategic plans in multiple languages from 30+ cities.

Research Assistant | Data Science Center, School of Government and Public Transformation | Sep 2023 – Dec 2025

- Co-led ML-driven tutoring platform project: responsible for data analysis, ETL, and impact evaluation.
- Applied regression and coarsened exact matching for education policy evaluation.
- Produced visual analytics and documentation for decision-makers and stakeholders.
- Published weekly research summaries to communicate technical content to broader audiences.

Research Assistant | School of Government and Public Transformation | Mar 2021 – Aug 2023

- Conducted regression analyses on housing abandonment for regional urban development policies.
- Managed large datasets to support the SIUM housing system in Monterrey.

High School Professor | Tecnológico de Monterrey | Jan – May 2024, Jan – May 2025

- Designed course on public problem-solving through systems thinking and community innovations.
- Integrated foundational AI literacy into project-based learning, introducing students to ethical considerations, algorithmic bias, and the societal impact of artificial intelligence.

TECHNICAL SKILLS

Programming: Python, R, SQL, Git, LaTeX

Data Analysis: Regression, Clustering, Classification, Econometrics

Machine Learning: Supervised & Unsupervised Learning, Web Scrapping, NLP, Named Entity Recognition (NER), Sentiment Analysis, Embeddings, Vector Databases

Visualization: Tableau, Shiny R, QGIS

Cloud & Tools: AWS S3, Glue, Athena

LANGUAGES

Spanish (Native), English (Advanced)

HONORS & AWARDS

- 1st Place – National Economic Prize of Infonavit (2021)
- High-Level Political Forum 2024 – United Nations, New York (Selected participant)

RESEARCH OUTPUT

- **Working Paper:** 'Policy interventions to fight housing abandonment: Evidence from Monterrey, México' (Co-authored)
- **Conference Presentation:** UN Nairobi Roundtable on Belonging – Presented NLP-based legal chatbot design using vectorized law and policy texts; Tec Science Summit on Indices of Decent Housing