Gerardo Trevino-Garza, Ph.D.

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Summary of Qualifications

- Over 30 years of experience in Advanced Analytics, Operations Research and Computer Science.
- Successfully led 30+ projects in Semiconductor, Manufacturing, Railway, Cement, Glass, Retail, Mining, and Food industries.
- Extensive teaching experience since 1985, spanning in-person and remote undergraduate, and graduate courses.
- Authored 40+ peer-reviewed journal articles and conference presentations.
- Fully bilingual (Spanish/English), fostering effective communication and learning environments.

Education

- **Ph.D. in Industrial Engineering**
  Arizona State University, Tempe, AZ —Aug 2005–May 2009
  Major: Operations Research and Production Systems
  Minors: Supply Chain Management and Mathematics
  Dissertation: *A Heuristic Approach for General 0-1 Integer Programming Problems*
- **M.S., Computer Science**
  ITESM, Monterrey, N.L., Mexico — January 1985–December 1986
- **Bachelor's in Industrial and Systems Engineering**
  ITESM, Monterrey, N.L., Mexico — August 1980–December 1984

Computational Skills

- **Expertise:** Advanced Math Programming (Linear, Nonlinear, Integer), Advanced Analytics, and Heuristics.
- **Optimization Tools:** CPLEX, GUROBI, Constraint Programming, Coin-OR, Frontline Systems, Excel Solver with VBA.
- **Statistical Analysis:** Minitab.
- **Simulation Tools:** MATLAB, Maple, GPSS, PROMODEL, AnyLogic, G2.
- **Operating Systems:** Windows, Unix, Linux.
- **Programming Languages:** FORTRAN, Pascal, COBOL, C, C++, C#, VBA, Java, Python.

Professional Experience

- **Texas State University - Ingram School of Engineering**

Visiting Associate Professor of Practice, August 2023–Present

- **Insight Global**

Senior BI Data Engineer, March 2021–August 2023

Prepared infrastructure for Machine Learning and Data Science using SAP, Databricks, SQL, Python, and Power BI.

- **Intel Corporation**

Staff Engineer, July 2019–March 2021

Developed optimization models for production scheduling using APIs (OPL, Visual Studio with C#) and solvers (CPLEX, Constraint Programming).

- **BNSF Railway Company**

Senior Operations Research Specialist, July 2013–July 2019

Led analytical projects in crew scheduling, block-to-train assignments, and fleet management. Developed heuristics and implemented solutions using Java, C++, and C# with CPLEX solver.

Academic Experience

Texas State University, Ingram School of Engineering
Visiting Associate Professor of Practice (August 2023 - Present)

- Undergrad Lectures: ENGR 3315 (6), IE4392 (6), IE4393 (5), IE 4342 (4).
- Graduate Lectures: IE5340 (1), IE5345 (2).
- Design of 2 Graduate Courses: IE5350 Scheduling and IE 5370 Inventory Control.

ITESM, Tec de Monterrey, Campus Monterrey
Research Professor (1985, 1987-1992, 1993, 2003-2004, 2010-2013, 2021-2023)

- 35 semesters lecturing 81 Sections in Operations Management, Decision Analysis, Systems Dynamics, Data Structures, Database Programming, Boolean Algebra.
- 2500+ students, Percentile Top 75% (Academic Performance Survey).
- Graduate Students Survey (2011-2013): 181 mentioned as excellent professor.

Universidad Panamericana, Campus Zapopan, Jalisco, Mexico
Remote Lecturer (August 2024)

- Invited to Lecture Advance Optimization course to 2 PhD Students

PhD Students (advised/co-advised)

- Main Co-Advisor, Leopoldo Eduardo Cárdenas-Barrón (Tec de Monterrey, PhD in Engineering Sciences - Industrial Engineering, 2015)
- Advisor, Luis Muñoz (Arizona State University, PhD in Systems Engineering, 2021)
- Co-Advisor, Juan Oregel (Universidad Panamericana , PhD in Industrial Engineering, in progress)

Research

- Authored 40+ peer-reviewed journal articles with 1600+ citations.
- Research areas include optimization, modeling, heuristics, scheduling, logistics, and operations management.
- **Metrics:** H-Index: 22, I10-Index: 35.
- **Research Gate:** https://www.researchgate.net/profile/Gerardo-Trevino-Garza
- **Google Scholar:** https://scholar.google.com/citations?hl=en&user=PLW97OEAAAAJ

Awards and Honors

- **ITESM Campus Monterrey:** Premio a la Labor Docente (Best Academic Performance), 2012.
- **ITESM Campus Monterrey:** Profesores que dejan huella (Reconoced cohorte), 2018, 2023.
- **CONACYT Fellow:** 2005–2009.
- **CONACYT, SNI Level I:** Mexican National Researchers Council, 2016–2023.