

Felipe Cordero

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Summary of Qualifications

Structural Engineer from the University of Chile with **14 years of experience** in structural engineering projects and software development for structural design optimization, including **leadership roles** in technical and **R&D** teams within the AEC industry. Currently pursuing **AI and ML** studies at Collège LaSalle Montréal, **seeking an internship** to apply knowledge in data engineering and predictive modeling systems. Additionally, I am working at ObraLink, developing state-of-the-art software solutions involving BIM technologies, web development, structural engineering, and real-time IoT data integration.

Education

Collège LaSalle Montréal, AEC: Artificial Intelligence and Machine Learning Sept 2023 – Present

- **Coursework:** Data Science. Feature Engineering. Regression, classification and regression models. Dashboards, Web Apps and API implementations.

University of Chile, Professional Degree of Civil Engineer Sept 2004 – 2011

- **Highlights:** Passed with highest distinction and the maximum qualification

Professional Experience

Senior Software Developer, ObraLink – Remotely (Chile) Aug. 2023 – Present

- Team lead for implementing autonomous software solutions for calculating deformation of reinforced concrete slabs during construction, utilizing real-time data, data processing, structural analysis, web development, and BIM technologies.
- Initiated the development of machine learning models to estimate concrete demand for projects monitored via the company's web platform.
- Formulated technical reports for presenting innovative projects to investment funds.

Technical Assistant Manager, Tensacon – Santiago, Chile Mar. 2022 – July 2023

- BIM team lead responsible for diagnosing, developing, and applying team management techniques to improve quality, productivity, and team climate, resulting in significant project delivery improvements, including Fast Track projects.
- Development of structural engineering solutions for large-scale prefabricated concrete projects of international relevance, including:
 - The two first-ever prefabricated concrete truck shops for the mining industry (CODELCO).
 - Three sports complexes for the 2023 Pan American Games in Chile.
 - Proposal of optimized structural engineering solutions for industrial mining facilities, including a desalination plant for the Teck mining company.

Structural Engineering Team Lead and R&D Coordinator in Structural and Seismic Engineering, Sirve Engineering – Santiago, Chile Mar. 2019 – Mar. 2022

- In charge of the R&D team, developing various software solutions, including an automation tool for sizing of reinforced concrete buildings, reducing tasks time from days to minutes.
- Team lead for the development of multiple reinforced concrete residential building projects, including 3D modeling. The latest project in charge was a 180,000 m² residential and commercial complex.

Volunteering

Collège LaSalle Montréal, Member of the Welcome Team Aug. 2024 - Present

Joined the welcome team in August 2024 and contributed to other student activities. Currently developing a software solution to support the Student Services team.

FECH, Post-Earthquake Relief 2010

After the 2010 Chile earthquake, participated in a volunteer team assessing the structural integrity of homes and alerting residents to potential collapse risks during aftershocks.

University of Chile, Guided Visit 2010

After the 2010 earthquake in Chile, support was provided to Professor **Svetlana Brezv** from the University of British Columbia, accompanying and transporting her around Santiago to visit various buildings that suffered severe damage.

FECH, Poverty Alleviation 2005

Collaborated with a team of volunteers in building a honey collection center for local producers in Mialqui, Chile. It was a meaningful experience of teamwork and personal growth.

Publications

Modeling of Compression Failure in Reinforced Concrete Walls Observed in the 2010 Chilean Earthquake of Magnitude MW 8.8 (Spanish) 2011

<https://repositorio.uchile.cl/handle/2250/104270>

Seismic Intensities in the Damage Area of the February 27, 2010 Earthquake (Spanish) 2010

Astroza, Maximiliano & Cabezas, Francisco & María, M & Moroni, María & Massone, Leonardo & Ruiz, Sergio & Parra, Elizabeth & Cordero, Felipe & Mottadelli, Anna.

Link to the publication

Skills & Knowledge

Technical Skills: Python Linux Linux Terminal VSCode Jupyter Notebook Scikit-Learn Qt SQL SQL Server MySQL PostgreSQL HTML CSS JavaScript Tree.js ReportLab OpenSees Etabs SAP2000 CAD Microsoft Office Suite.

Personal Skills: Leadership Time Management Decision Making Problem Solving Organization Effective Communication.

Languages: Native: Spanish Fluent: English Intermediate: French

Interests: Playing tennis Swimming Playing drums Cooking Taking pictures Traveling Reading