

## research projects

### **Improving Workplace Safety through Proactive Inspections** | Data Science Fellow

Machine learning product using binary classification models to identify facilities at high risk of labor law violations. The problem required several data science tools and field trials.

2018. Private investigation worked jointly between U. Chicago and the Department of Labor in Chile. [Project report submitted.](#) [Project link.](#)

### **Small Steps to Transform the Health System in Mexico** | Research Analyst

Analysis of variance of Mexican private health market prices using insurance companies' data and public open data. Presentation of recommendations addressed to government and insurance companies to lessen social impact of catastrophic diseases.

2017. Private investigation worked jointly between CAD Salud and IMCO. *Sponsored by CEEG.* [Project report published.](#) [Publications link.](#)

### **Sexual Violence and Teen Pregnancy in Mexico** | Research Analyst

Meta-analysis of sexual violence indicators in teenage girls. Identification and assessment of risk factors in this group.

2017. Private investigation worked jointly between CAD Salud and IPAS Mexico. [Investigation report published.](#)

### **Diabetes** | Research Consultant

Methodology design and project supervision to attract and retain diabetic patients in treatment using random forests and survival analysis. Identify paths to promote new clinics openings and increase treatment capacity to achieve sickness stabilization in Mexican communities.

2016. Private investigation worked jointly between CAD Salud and CIMAT. *Sponsored by Conacyt and Clínicas del Azúcar.* [Project report submitted.](#)

### **New Jobs** | Research Analyst

Comparison of the job market in Mexico before and after digital services were introduced using Mexican Social Security Institute (IMSS) data. Estimate economic gains and promote investment for digital platforms.

2016. Private investigation by CAD Salud. *Sponsored by IMSS.* [Article approved for publication.](#)

### **Marijuana** | Research Analyst

Analysis of public surveys on the perception of Mexicans' about marijuana usage and its impact on society. Comparison of marijuana usage between Mexico and other countries considering violence and mortality. The results will be used to stimulate informed debates about the legalization of marijuana for medical and recreational use.

2016. Public investigation by CAD Salud. *Sponsored by CAD Salud.* [Infographics published.](#) [Infography 1 link.](#) [Infography 2 link.](#)

### **Food Diet Patterns** | Research Analyst

Model to identify food consumption patterns and association patterns using daily ingest diaries from a probabilistic sample of the Mexican urban population. Identify habits and behavior to aid campaigns that inform and educate people to reduce obesity prevalence in Mexico.

2014. Private investigation worked jointly between L15L and Mexican Health Institute. *Sponsored by Nestlé.* [Book and videos published inside corporation.](#)