Daniel Silva-Inclan

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EDUCATION

UNIVERSITY OF CHICAGO

M.S. in Computer Science,
(Spec. in High-Performance Computing)
B.S. in Statistics
B.A. in Economics

TECHNICAL SKILLS

Python (pandas, sklearn, dbt, streamlit)
R (tidyverse, shiny, leaflet, data.table)
Snowflake • Databricks • AWS • Azure
SQL • git • Docker • vim • bash
GitHub Actions • Airflow • Terraform
Azure (AI Foundry, MLflow, CosmoDB)
TensorFlow • (py/R)STAN
Apache (Hadoop, Kafka, Spark, etc.)
Go • C/C++ • Julia

MISC/HOBBIES

- Contract ML & web-stack developer for a local Chicago company (Sept. 2022 – present), building and maintaining custom applications.
- Designed and operate a home server using TrueNAS to host cloud-like services, including Home Assistant (automation), Jellyfin (media streaming), and Immich (photography storage).
- Presented undergraduate honors thesis in Economics at the 2016 Joint Statistical Meetings (ASA, Chicago); SPAAC Finalist.

OPEN-SOURCE

BUG FIXES/CONTRIBUTIONS

- ICSS: R package of Inclan/Tiao '93
- tigris/tidycensus: Tidystyle api for Census shapefile/US Census by Kyle Walker

COURSEWORK

- Machine Learning
- Applied Linear Methods
- Stochastic Processes
- Parallel Programming
- Product Management
- Big Data
- Honors Economic Analysis (I-IV)
- Honors Econometrics (A & B)
- Honors Game Theory
- Accelerated Real Analysis (I-III)
- Professional Writing

ERNST & YOUNG (EY)

Chicago, IL

Data Science Manager — Aug 2024 - present
Senior Data Scientist — Jan. 2022 - July 2024

Tech consultant in AI & Data Engineering for Banking & Capital Markets.

- Managed and led two cross-functional teams to productionize multiple GenAI solutions on Azure/Databricks using AI Foundry, MLflow, etc. to create RAG doc-intelligence pipelines and synthetic data generation.
- Directed a 6-person engineering team delivering high-volume financial transaction ETL pipelines. Owned the technical portion of engagement including architectural design, code development, IaC, CI/CD, code review, and documentation. The client and firm leadership acknowledged the team for exceptional delivery.
- Worked on multiple legacy-to-cloud modernizations, migrating data workflows into Databricks / Snowflake using SQL, pyspark, snowpark, & dbt.
- Developed ETL and reconciliation pipelines for a cryptocurrency exchange's IPO audit-readiness, ensuring compliance and interoperability across Audit, FinOps, Data, and Data Science functions.
- Contributed to reusable internal ML/GenAI/Agentic AI tools including PowerPoint slide generators, time-series pipelines, & AI product POVs.
- Member of Chicago office and AI & Data cultural committees. Developed code in Python to automate new hires, anniversary, and promotions slides.

INTERNATIONAL MONETARY FUND (IMF)

Washington, DC

Research Developer (A9) — Apr. 2021 - Oct. 2021

Research Department under Chief Economist and Research Director Gita Gopinath, Assistant to the Director Emine Boz, and Economist Suman Basu.

- Developed a research pipeline to analyze and diagnose multiple-equilibria dynamics in proposed economic models, cutting iteration time from weeks to days and improving model robustness.
- Implemented a parallelized two-stage multistart optimization framework in Python with high-dimensional diagnostic visualizations in R, enabling faster validation and reproducibility of the simulations.
- Contributed to the Integrated Policy Framework: the IMF's conceptual model for optimal monetary policy, capital controls, foreign exchange intervention, and macroprudential policy in the context of COVID-19.

BECKER FRIEDMAN INSTITUTE (BFI)

Chicago, IL

Research Assistant — June 2018 - June 2020

Open Source Economics Group under Director Richard Evans.

- Researched and developed packages in python for private and synthetic data generation, addressing deanonymization risks in sensitive IRS tax data (PUF) using differential privacy, k-anonymity, and Bayesian networks.
- Prototyped an ML-driven error-correction pipeline in Python to automate editing and validation of IRS tax documents, improving data quality and reducing manual review.

CIVIS ANALYTICS

Chicago, IL

Data Scientist — Sept. 2016 - Sept. 2017

Research and Development Causal Inference team.

- Developed and delivered a scalable customer segmentation pipeline for a Fortune 50 food company (with BCG), clustering and visualizing audiences to identify opportunities for targeted digital advertising.
- Prototyped media-mix pipeline to verify effectiveness of Verizon digital marketing campaigns through heterogeneous treatment effect modeling.
- Built geospatial data pipelines (R, Python, QGIS, PostgreSQL) including mapping tools, enabling internal teams and external clients to perform advanced spatial analysis and visualization.