

Jesús Cantú

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Technical Skills

PROGRAMMING LANGUAGES: Python | SQL | R | C# | Java | Bash | HTML

DATA SCIENCE & MACHINE LEARNING: Deep Learning/Neural Networks (TensorFlow | PyTorch) | Unsupervised Learning (K-Means | Clustering | PCA) | Linear & Logistic Regression (Scikit-Learn) | Data Processing & Visualization (Pandas | Matplotlib | Seaborn | Shiny | Power BI) | Relational Databases (MySQL | PostgreSQL | SQLAlchemy) | Non-Relational Databases (MongoDB) | Apache Hadoop Ecosystem (HBase | Phoenix | Hive | Impala | Spark) | Cloud Computing Services (AWS | GCP | Databricks) | DevOps (Docker | Git)

Education

Data Science Engineer Certification – Fellowship Program | The Data Incubator | May 2023

M.S. in Software Engineering | Loyola University – Chicago | May 2023

B.A. in Sociology | Princeton University | Jun 2017

Experience

LOYOLA UNIVERSITY – CHICAGO

May 2022 – May 2023

Data Scientist

- Partnered with interdisciplinary teams of Psychologists at Arizona State University and Computer Scientists at Loyola University in the identification of new research areas. Developed and executed long-term research strategies. Submitted and won a Google Research Grant valued at ~\$60k in 2023.
- Clearly defined, implemented, and evaluated the data structure and experimental framework necessary to construct new machine learning models. Actively contributed to data science pipelines via the creation of new datasets. Utilized Python to collect and analyze 15M+ social media data points through various APIs for cyberbullying/hate speech detection.

INVERSA LEATHERS

Jul 2021 – Feb 2022

Data Scientist

- Transformed business questions into research projects with the appropriate methods and tools. Directed independent research studies that estimated the geographic spread of lionfish through spatial analysis of GEBCO 2020 bathymetry data in R and QGIS. Enabled the team to raise \$2M from the private market after assisting in identifying the total addressable market of a scaled response to the invasive species.
- Assisted in the development of commercial fishing strategies by developing testable hypotheses that evaluated KPIs. Conducted statistical analyses, forecasted results, and aided the research and development team in executing well-grounded recommendations to the executive leadership team and other stakeholders.

UNIVERSITY OF CHICAGO

Oct 2019 – Jun 2021

Research Scientist

- Planned, directed, and conducted experimental research utilizing mechanistic SIR (Susceptible; Infected; Recovered) models alongside data analytics in R and translated research findings into targeted health interventions.
- Simulated the effects of temperature, humidity, and rainfall on the seasonality of malaria transmission. Wrangled and visualized time series data (~500K+ observations). Compiled the results in a comprehensive report.

COLUMBIA UNIVERSITY

Feb 2018 – Sep 2019

Lab Manager & Research Associate

- Supervised research program operations and advised a team of 5 researchers.
- Built and simulated a dynamic transmission model for chickenpox using R and C++ snippets. Fitted the model, a partially observed Markov process, using 80+ years of time series, epidemiological and demographic event data.
- Collected and utilized 1st/3rd party healthcare data (~25K+ observations) to measure varicella vaccine efficacy. Presented study findings at an international ecology and infectious disease meeting.
- Prepared publication-quality visualizations for research papers. Drafted and reviewed research papers for publication.

Awards

- **Margaret H. Hamilton, High Achievement Award (2023):** Selected based on GPA, this award recognizes the student in the MS program with top academic performance across all computer science degrees at Loyola University.