

Joshua Chen

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Education

Barcelona School of Economics

2023 - 2024

M.Sc. in Data Science Methodology

Thesis: Comparative Analysis of Convolutional Neural Networks and Visual Transformers for Classification

Selected Courses: Statistical Modeling and Inference, Machine Learning, Deep Learning, Advanced-Natural Language Processing, Causal Inference, Optimization, Reinforcement Learning

Boston College

2016 - 2020

Morrissey College of Arts and Sciences Honors Program, Dean's List First Honors

B.A. in Mathematics, Minor in Economics

Selected Courses: Econometrics (Doctorate Level), Mathematical Modelling, Statistics, Probability

Skills

Programming:

- **Python** - Scikit-Learn, Pandas, Numpy, Pytorch, TensorFlow
- **R** - dplyr, mombf, sf
- **SQL** - Postgres, MySQL, BeaverDB
- **Data Visualization** - Plotly, Matplotlib, Leaflet, ggplot2

Data Science:

- Machine/Deep Learning
- Natural Language Processing
- Computer Vision
- Statistical and Causal Inference
- Bayesian Statistics
- Optimization

Personal Skills:

- **Communication:** Effectively bridging technical and non-technical communication.
- **Collaboration:** Working in dynamic environments with diverse groups.
- **Leadership:** Empowered team members through effective delegation

Selected Projects

- **BERT for Topic Classification of News Articles** - Keras, Transformers, Data Augmentation, Model Distillation
- **Regression Techniques for Classification of Geospatial Data** - Regularization, Bayesian Model Selection, R
- **Network Analysis of Recommendation System Algorithms** - Collaborative Filtering, ProbS, Networkx, Python
- **ML Pipeline to Predict Hospital Data** - Feature Engineering, Dimensionality Reduction (PCA, k-Means), XGBoost

Work Experience

World Bank - Development Impact (DIME)

2024 - 2024

Data Science Intern

- Support the development of an R package for querying Facebook Marketing API and produced statistical analyses to demonstrate its capabilities for Social Science Research.
- Analyzed and interpreted large datasets to identify patterns and trends in traffic congestion within Nairobi.

Uncommon Preparatory Charter High School

11th Grade Team Lead

2022 - 2023

- Led a team of 10 teachers and counselors, to effectively manage the academic and social needs of 117 students.
- Implemented a multi-tiered intervention system to support staff and students in meeting expectations, resulting in the highest attendance and homework completion rates across all grades in the school.

Lead Mathematics Instructor

2020 - 2023

- Achieved the district's second-highest Calculus test scores by implementing engaging and challenging coursework.
- Implemented data-driven strategies that led to a 15% improvement in Algebra 2 scores for the 2020-21 school year.

Other

Relay Graduate School of Education - M.A. of Teaching - Secondary Mathematics

2020 - 2022

Big Brothers Big Sisters of Massachusetts Bay - Mentor

2017 - Present

Languages - English (Native), Chinese (Fluent)