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 (Sk-Learn, Pandas, Numpy, Pytorch, TensorFlow)
– R (dplyr, mombf, sf)
– SQL (Postgres, MySQL, BeaverDB)
– Data Visualization (Plotly, Matplotlib, Leaflet, ggplot2)
– LaTeX, HTML, CSS

Data Science:
– Machine/Deep Learning
– Statistical and Causal Inference
– Bayesian Statistics
– Natural Language Processing
– Computer Vision

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, Networx, Python
– **ML Pipeline to Predict Hospital Data** - Feature Enginering, Dimensionality Reduction (PCA, k-Means), XGBoost

Work Experience

World Bank - Development Impact (DIME)   2024 - 2024
Data Science Intern
– Support in the development of an R package to query Facebook Marketing API.
– Organize and analyze large datasets on traffic congestion in Nairobi.

Uncommon Preparatory Charter High School
11th Grade Team Lead   2022 - 2023
– Manage a team of 10 teachers and counselors and a grade of 117 students.
– Assisted staff and students in meeting expectations through individual/group intervention
– Maintain the 11th Grade budget and plan quarterly grade team events.

Lead Mathematics Instructor   2020 - 2023
– Create daily lesson materials for over 110 high school students.
– Improved performance of Algebra 2 assessments over the 2020-21 school year by 15%.
– Founding coach of the boys' volleyball team, additionally taught violin/piano/chess

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)