

Joshua Chen

Website: chenjoshua7.github.io | GitHub: [/chenjoshua7](https://github.com/chenjoshua7) | Brooklyn, New York | chen.joshua98@gmail.com

Education

M.Sc. in Data Science Methodology - Barcelona School of Economics 2023 - 2024

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

B.A. in Mathematics - Boston College 2016 - 2020

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

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

Selected Projects

- **Comparing CNNs and Vision Transformers (Masters Thesis)** - *Keras, Pytorch, Transfer Learning, HF*
A theoretical and applied comparison, with a close investigation of differences in invariance and inductive bias.
- **Machine Learning Algorithm from Scratch (Personal)** - *Python, NumPy, Matplotlib*
Use Numpy to efficiently implement algorithms ranging from Linear Regression to Neural Networks from scratch.
- **BERT for Topic Classification** - *Keras, Transformers, Data Augmentation, Zero-shot Learning*
Enhanced the classification accuracy of 7 classes with only 32 data samples by 20% using data augmentation techniques.
- **Bayesian Regression for Classification of Geospatial Data** - *Regularization, Bayesian Model Selection, R*
Using regularization techniques and Bayesian Model Averaging for feature selection to predict urban land covers.

Work Experience

Data Science Intern

World Bank - Development Impact (DIME) 2024 - Present

- Support the development of an R package for querying Facebook Marketing API
- Utilized clustering techniques and conducted statistical tests to create R vignettes with the package, aimed at analyzing the rural and urban divide.
- Analyzed and interpreted large datasets to identify patterns and trends in traffic congestion within Nairobi.

11th Grade Team Lead/AP Calculus Teacher 2020 - 2023

Uncommon Preparatory Charter High School

- 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.
- 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.

Skills

Programming:

- **Advanced:** Python, Numpy, Pytorch, Keras, Scikit-Learn, Computer Vision, Natural Language Processing
- **Professional:** Pandas, SQL, R, ggplot2, MySQL, Optimization, Statistics, Tensorflow
- **Basic:** Postgres, BeaverDB, Causal Inference, HTML, CSS, Javascript

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.

Other

M.A. in Secondary Mathematics Education - Relay Graduate School of Education 2020 - 2022

Mentor - Big Brothers Big Sisters of Massachusetts Bay 2017 - Present

Languages - English (Native), Chinese (Fluent)