Harrison Cho

harrison_cho@brown.edu

harrison hcho1111

See light theme

Education

- **Brown University** — Providence, Rhode Island
  ScM in Data Science - GPA: 4.00 — *September 2021 – Present*
  - Coursework: Applied Machine Learning, Deep Learning, Applied Mathematics for Machine Learning, Statistical Learning
- **University of North Carolina - Chapel Hill** — Chapel Hill, North Carolina
  BS: Economics, Minor: Statistics, Highest Distinction and Honors - GPA: 3.88 — *August 2016 – December 2020*
  - Coursework: Data Analysis Methods, Optimization, Advanced Econometrics, Linear Algebra, Calculus Series
  - Accolades: Phi Beta Kappa, Phillips Ambassador Scholar, Kakehashi Project Representative
  - Thesis: *The Effects of Socioeconomic Characteristics on Ambient Air Pollution and the Decision to Over Pollute*

Skills

- **Languages:** Python (scikit-learn, PySpark, TensorFlow, Keras, PyTorch, OpenCV, Dask), R (caret, kernlab, shiny), SQL (PostgreSQL & MySQL) Julia, D3.js
- **Other Tools:** Git, Google Cloud Platform, GraphQL, STATA, Excel, Mathematica, LaTeX

Relevant Experience

- **Brown University Data Science Initiative** — Providence, RI
  Quantitative Research Intern — *May 2022 - Present*
  - Formulating a dynamic cryptocurrency asset pricing model utilizing an ensemble of Machine Learning techniques including, but not limited to: ARIMA + GARCH, Hidden Markov Models, CNNs, RNNs, and Transformers
  - Mapping, constructing, and analyzing technical indicators engineered from scraped equities, derivatives, and cryptocurrency time series
- **Watson Institute for International and Public Affairs** — Providence, RI
  Data Science Research Assistant — *January 2022 - Present*
  - Refined data preprocessing techniques to feature engineer additional spatial and socioeconomic variables related to fatal police encounters in the US
  - Engineered python scripts to web scrape geographic data from the Census Bureau's ACS-5 API given a victim's residency data and fatality location
- **University of North Carolina - Chapel Hill Economics Department** — Chapel Hill, NC
  Research Assistant — *December 2020 - April 2021*
  - Consolidated literature relating to Monte Carlo simulation, supervised learning techniques, and casual inference conditions in econometric machine learning models to further case study analysis efforts
  - Implemented three machine learning models in scikit-learn and a sequential model in TensorFlow to simulate causal inference techniques for supermarket sales data

Projects

- **Neural Style Transfer for Algorithmically Generated Camouflage** — Spring 2022
  Python: TensorFlow, Keras, OpenCV; Cloud Services: Google Cloud Platform
  - Assembled a cloud-based CycleGAN to generate camouflage patterns from 90,000 natural-landscape images. Two additional computer vision models were incorporated with the deep style transfer model for image preprocessing (removal of image watermarks) and feature detection (removal of irrelevant sky-based features)
- **Spatiotemporal Approaches for Classifying Parking Violations** — Fall 2021
  Python: scikit-learn, Requests, Plotly; API: NYC Geoclient
  - Developed a complete, reproducible ML pipeline via scikit-Learn for classifying 100 unique parking violation categories designated by NYC's Department of Finance. Coupled preexisting geolocation features and NYC's official Geoclient API to engineer granular coordinate data