

Bailey Morton

Data Science Practitioner

Data Science Practitioner passionate about solving challenging problems. I strive to be intuitive in my approach to problem-solving to produce elegant and innovative solutions, no matter the task. I have a great interest and background in quantitative topics and applications, and I'm eager to utilize tools from mathematics, machine learning, and programming to provide meaningful insights. I am interested in roles that push me to think abstractly, grow, and continually develop my skill-set.



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Tampa, United States



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github.com/baileymorton989

SKILLS

Quantitative Modeling
and Pipelining

Mathematical and
Statistical Analysis

Scientific Programming

LANGUAGES

English
Full Professional Proficiency

French
Elementary Proficiency

INTERESTS

Probabilistic Machine
Learning

Time Series Forecasting

Algorithmic Game
Theory

Scientific Programming

Sports Analytics

WORK EXPERIENCE

Enterprise Performance Assessment Engineer Elutions

07/2019 - Present

Tampa, FL

Industry automation and optimization company

Achievements/Tasks

- Develop Python scripts to automate savings reports, build energy, asset and optimization savings models and visualizations (pandas, numpy, datetime, matplotlib, seaborn, tkinter)
- Build simple time series forecasting models and pipelines for automotive part production and maintenance work order costs using GRUs/LSTMs with Bayesian Inference (keras, hyperopt, keras-tuner)
- Build time series prediction models and pipelines for chemical consumption, energy consumption and yield output using XGBoost Regression, Random Forest Regression, Bayesian Ridge Regression, Stacked Regressors, and other classical algorithms with a Conformal Prediction framework (scikit-learn, hyperopt-sklearn, mlxtend)
- Create anomaly detection systems for chemical extraction rates using isolation forests, K-means and mean shift algorithms, and first principles statistical methods (scikit-learn, statsmodels, pandas, numpy, datetime)
- Impute missing maintenance work order costs by parsing task and asset descriptions using TF-IDF and XGBoost Regression (scikit-learn, mlxtend)
- Develop first-principles matching algorithms for live client environments to demonstrate efficiency improvements for yield output and extraction rates (pandas, numpy, vaex, formulas, openpyxl, scikit-learn)

Contact: Priyanka Thillan Jayakumar - Email: Priyanka.Jayakumar@elutions.com Phone: 813-743-1640

Game Theory Research Assistant University of Florida

08/2020 - 12/2020

Remote

Achievements/Tasks

- Create Python scripts using the Gambit library with Dr. Scott Kostyshak
- Model business competition, poker games, gift exchanges, and other classical perfect information games by algorithmically building and parsing games
- Build, solve and parse perfect information games from simple text files which contain only the payoffs of the game
- Maintain a GitLab repository to track changes and fix issues related to all relevant scripts
- Developed the gambitparser Python library

Contact: Scott Kostyshak - Email: skostyshak@ufl.edu Phone: (352) 392-0403

WORK EXPERIENCE

Capital Markets Research Intern Cushman and Wakefield

05/2018 - 08/2018

Fort Lauderdale, FL

Commercial Real Estate Broker

Achievements/Tasks

- Utilize Axiometrics and Yardi to inform brokers regarding existing and developing multi-family properties in Broward, Miami-Dade and Palm Beach counties
- Develop Excel spreadsheets to update property databases and analyze rent rolls for multi-family properties in South Florida
- Plot new and developing multi-family properties in South Florida using Google Earth
- Perform market research using Costar and created reports on local South Florida and West Florida businesses such as restaurants, technology start-ups, airports and office spaces, to create offering memorandums
- Cold-call local property management offices to gather insight regarding property details

Contact: Neal Victor - Email : Neal.Victor@cushwake.com Phone: 954- 377-0518

Econometrics Research Assistant University of Florida

09/2017 - 03/2019

Gainesville, FL

Achievements/Tasks

- Collaborate with a team of undergraduate students and independently collect data sets to investigate the relationships between alcohol and health, as well as life satisfaction and age for Dr. Scott Kostyshak
- Create R scripts to perform regression analysis to replicate the results found in academic papers and extract variables that were consistently used across all studies
- Create a Bit Bucket repository to organize the relevant R scripts, the steps to retrieve the data, the academic papers which used the data, and the definitions of the variables used, to be shared through GitHub

Contact: Scott Kostyshak - Email : skostyshak@ufl.edu Phone: (352) 392-0403

Land Development Intern Morton Group

06/2016 - 08/2016

Delray Beach, FL

Boutique Real Estate Development and Investment Company

Achievements/Tasks

- Shadow the project's development team for a 52-unit mixed residential and office space in the historic downtown area in Delray Beach, Florida
- Attend meetings with governing municipality/ City of Delray Beach's various departments such as planning and zoning, building, engineering
- Visit job sites to view the weekly progress of construction and work with project analyst and comptroller to regulate bid proposals

Contact: Bradley Morton - Email : bamfour@aol.com Phone : 561-306-7165

PERSONAL PROJECTS

Baseball Forecasting and Simulation(Currently Developing a Probabilistic Simulation) (03/2020 - Present)

- Scrape data from Fangraphs using the pybaseball library and build player dictionaries using traditional and advanced statistics
- Utilize Mean-Shift clustering from scikit-learn to find player tiers for each position
- Develop a Monte Carlo weighted-average simulation to generate risk-adjusted player prediction scores for fantasy baseball
- Adapt a fantasy football drafting simulator using Monte Carlo Search Trees to simulate an N-person fantasy baseball draft
- Developed the baseballforecaster Python library

EDUCATION

Majors in Economics and Mathematics with a Minor in Statistics(3.74 GPA)

University of Florida

08/2016 - 05/2019

Gainesville, FL

Courses and Thesis

- **Relevant Coursework:** Econometrics, Game Theory, Economic Growth, Microeconomics, Macroeconomics, Mathematical Economics, Calculus III, Differential Equations, Sets and Logic, Linear Algebra, Abstract Algebra, Real Analysis I-II, Complex Analysis, Regression Analysis, Experimental Design, Probability Theory, Statistical Theory
- **Thesis:** The Effects of Economic Status on International Soccer Success