Thomas J. O'Boyle

411 6th Street, Brooklyn, NY 11215
(609) 651-2708 - tomjoboyle@gmail.com

Education

BOSTON COLLEGE – Chestnut Hill, MA   May 2017
· Bachelor of Science in Physics
· Coursework - Machine Learning, Data Structures & Algorithms, Principles of Programming Languages, Statistical Mechanics, Differential Equations, Linear Algebra, Multivariable Calculus

Experience

FULL STACK ENGINEER   May- August 2016, May 2017 – Present
Empirasign Strategies – New York, NY

· Maintain and update both backend (Python) and frontend (JavaScript) code, HTML templates, CSS styling, and general architecture of production Django webapp
· Research, implement, and maintain item-based Collaborative Filtering search recommendation engine; implementation based on Amazon derivation of item similarity
· Maintain and expand chat functionality and user notifications using PubNub
· Deploy locally hosted Falcon and Moleculer (NodeJS) microservices
· Oversee use of MySQL and MongoDB databases, improving architecture and data-flow when necessary
· Explore and prototype machine learning implementations of Natural Language Processing and pattern recognition text-parsing systems using Pytorch and Scikit-learn; methods include Neural Network, Decision Tree, and Linear Classifier algorithms
· Maintain and extend RESTful API; build apps to interact with third-party APIs
· Refine email, spreadsheet, plaintext, and webpage parsers, building new parsers when required and directing other engineers in making modifications
· Manage and extend test suite written with Python Unittest framework; includes extensive number of unit, regression, and property based tests

COMPUTER SCIENCE TEACHING ASSISTANT   September 2016 – May 2017
Boston College Computer Science Dept. – Chestnut Hill, MA

· TA for both introductory Computer Science course, and Computational Investing course
· Introduced students to basic Computer Science concepts, and demonstrated concepts with Python examples
· Prepared and led discussion based classes on course material, created and graded homework assignments
· Assisted students in refining data pipeline and writing data-driven investment algorithms on Quantopian platform

Accomplishments & Projects

MINI-C COMPILER – Wrote large parts of a compiler in OCaml for a simple C-like language; project focused largely on parsing code to Abstract Syntax Tree, semantic analysis, and general translation to machine code

FILM PROFIT PREDICTOR – Implemented machine learning techniques using Scikit-learn to create a Support Vector Machine model for predicting profitability of Major Studio films (full project available on GitHub)

MARCH MADNESS SCRAPER – Web-scraping project that uses BeautifulSoup to scrape sites for team stats, and runs basic prediction model for March Madness tournament (full project available on GitHub)

BOOK OF CARNEY MUSICAL – Wrote original score and produced a full length musical stage production

BOSTON COLLEGE MEN'S ROWING – 2015 NERC Points Trophy, 2014 NERC Novice 8+ Gold Medal and Points Trophy, 2014 Head of the Fish Regatta Gold Medal, 2014-2015 Head of the Charles competitor

PHILADELPHIA MARATHON – Full Marathon participant 2012, Half-Marathon participant 2011

Skills

Python ❖ JavaScript ❖ OCaml ❖ Java ❖ HTML/CSS
❖ NumPy ❖ Pandas ❖ MongoDB ❖ MySQL ❖ Mercurial/Git ❖ Linux/Unix ❖