

Thomas J. O'Boyle

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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

Empiresign 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
- 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
- Research, implement, and maintain item-based Collaborative Filtering search recommendation engine; implementation based on Amazon derivation of item similarity
- Oversee use of MySQL and MongoDB databases, improving architecture and data-flow when necessary
- 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; supervise pipeline of data from variety of unstructured states to uniform, cleaned, and easy to query format
- Use Google Analytics cookies to track intra-site activity and marketing efforts
- 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 ❖