

Michael Natenzon

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Programming and Analysis: Python • R • SQL • MATLAB • Data Mining, Structuring, Analysis, and Visualization
IBM Certificates: Python for Data Science • Machine Learning with Python • Big Data Foundations

EDUCATION

Johns Hopkins University - B.S. Materials Science and Engineering - Focus in Nanotechnology 2014 - 2019

Notable Coursework: Physics • Chemistry • Kinetics • Thermo Dynamics • BioMaterials • Linear Algebra • Differential Equations
Micro / Nano Structured Materials and Devices • Chemistry of Nano Materials • Characterization of Materials

Johns Hopkins University - Master of Business Administration - Focus in Enterprise Risk Management 2017 - 2019

Supervised Machine Learning: Linear / Multivariable / Logistic Regression • Support Vector Machines • K-Nearest Neighbors
Decision Trees • Random Forests • Perceptrons • Deep Neural Networks • Ensemble Learning

Unsupervised Machine Learning: K-Means / Hierarchical / Density Based Clustering • ICA • PCA • LDA Model

Model Evaluation: K-Fold Cross Validation • Learning / Validation / ROC / AUC Curves • Confusion Matrices

Libraries: SciKit-Learn • SciPy • Numpy • Pandas • Natural Language Tool Kit (NLTK) • RegEx • Matplotlib

Inductee of Beta Gamma Sigma - The Global Honor Society for AACSB-accredited Business Schools

DATA SCIENCE PROJECTS

- Applied statistical and machine learning models from SciKit-Learn to a Kickstarter dataset of over 3,000,000 data points to predict a campaign's performance. Compared the accuracy, ROC/AUC, and F1 scores of logistic regressions, support vector machines, decision trees, random forests, neural networks, and ensemble ML models in predicting a campaign's success. Tested models' out-of-sample performance through cross-validation, evaluated false positives and negatives with confusion matrices, and assessed over and under fitting using learning and validation curves. Extracted campaign topics with LDA.
- Developed a web scraper in Python to collect search results from popular websites, including Google, Twitter, Instagram, and Pinterest. Wrote programs following PEP8 coding standards and focused on ease-of-use and scalability.

EXPERIENCE

Startup in Chemical Vapor Sensing, Johns Hopkins University Baltimore, MD June 2018 - May 2019

Data Scientist and Materials Engineer

- Enabled a lab of +10 PhD students to minimize collection and processing times of materials data from minutes to seconds by implementing a linear regression-based pipeline that classified and visualized vapor sensors' properties in real time - while being measured by a probe station. Retrofitted the legacy testing instrument and followed PEP8 production coding standards.
- Facilitated an early startup's shift from focusing on academia to emphasizing commercialization by conducting research on the \$350 million vapor sensor industry, identifying a target market, and developing a business model that capitalized on industry inefficiencies and IP advantages. Pitched to the inventor on the value of business-oriented decision making and produced deliverables that served as the basis for discussions with funders and potential licensees.

Louie Research Group, Johns Hopkins University Baltimore, MD January 2018 - May 2018

Data Analyst and Python Programmer

- Led a cross-functional team of Johns Hopkins engineers to turn an idea for a portable brain scanner into a data-backed plan for commercialization by coordinating a team of 4 MBA candidates conducting patent and market assessments of the technology.
- Conducted research on the multi-billion-dollar brain imaging market, identified sources of sustainable competitive advantage, and wrote language processing algorithms to scrape patents for keywords. Delivered market assessment two weeks ahead of schedule.

Neuroscience and Biomedical Research Labs, Johns Hopkins University Baltimore, MD June 2016 - May 2017

Data Scientist and Materials Engineer

- Automated brain signal processing for neuroscientists by creating models to isolate overlapping signals collected by EEG electrodes. Leveraged PCA to group electrodes with overlapping signals and ICA to isolate signals from neurons.
- Successfully grew Li-doped Zinc oxide nanowires by testing hypotheses and iterating on experimental procedures to optimize the synthesis process. Rendered the nanowires as candidates for synthetic nerve implants.

MichaelNatenzon.com Remote January 2012 - Present

Website Developer

- Helped clients grow online customer engagement from zero to tens of thousands of page views by developing websites with forum, registration, and front-end management features. Implemented over 10 successful sites using HTML, PHP, and SQL.