Alex Abraham

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Education

Yeshiva University, Yeshiva College, New York, NY

- Bachelor of Arts – May 2016
- Major: Computer Science
  - Gertrude Nissenbaum Memorial Award for Excellence in Computer Science

Additional Courses

- Programming Mobile Applications for Android Handheld Systems – Coursera, Spring 2014
- Web Development (HTML, CSS, JavaScript, PHP, MySQL) – Udemy, Spring 2014
- iOS Development (Swift) – Udemy, Fall 2014
- AMT – Intro to Finance

Technical Skills

- Programming Languages (Python, Java, JavaScript, Angular, NodeJS, HTML/CSS, Mobile App Development)
- Database Languages (MongoDB, MS SQL, MySQL)
- Cloud infrastructure management (Microsoft Azure)
- Apache Airflow, Jupyter Notebook, Linux

Experience

Data Engineer, AllianceBernstein, New York, NY — July 2017 – Present

- Created robust data pipelines for analyzing alternative data
  - Collected data through web scraping (Scrapy + Splash, Selenium)
  - Performed analysis using Natural Language Processing
  - Integrated machine learning models developed by data scientists on the team
  - Utilized cloud technology to deploy pipelines
- Developed multiple web-based dashboards using modern web development techniques for visualizing model output (Angular front-end & flask back-end)
- Established team infrastructure in Microsoft Azure for large-scale data analysis
  - Created Windows and Linux machines to accommodate different workflows
  - Utilized IaaS and self-hosted solutions for databases and job scheduling
  - Managed DataBricks cluster-computing environment
- Performed exploratory data analysis to initiate model development
- See Appendix for a summary on some of my latest projects

Software Developer, AllianceBernstein, New York, NY — July 2016 – July 2017

- Utilized web scraping techniques to build a new dataset for use in bond analysis
- Used multiprocessing to speed up data transfer process for Credit Risk Transfer loans
- Involved in redesigning process to calculate internal bond rating using data from multiple vendors
- Created processes to migrate data across internal systems
  - Synchronized internal account database with software to invest in derivatives
  - Replaced manual account verification process and improved efficiency of business operations

Software Developer and IT Technician, NutriLab LLC, Hackensack, NJ — August 2013 – January 2015

- Managed equipment provided by the company for employees, performed routine checks, researched and suggested new equipment to purchase
- Developed an algorithm that interprets questionnaire responses to assess nutrient deficiencies and generate a nutritional supplement recommendation; algorithm dramatically increased the productivity of the nutrition staff
- Provided technical support to employees who need help with using company equipment such as computers, printers, network storage, and cell phones

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Appendix – Data Engineering Projects

Client Churn January 2019 – Present

AllianceBernstein has had very high client retention over the past decade. Our clients feel that their money is secure in our hands and trust us to make smart investment decisions on their behalf. That being said, there is still a need to best understand what drives certain clients to leave the firm.

- Performed Exploratory Data Analysis on internal data to help build a compound signal for client dropout
  - Incorporated dozens of unique data points on a monthly basis
- Started process to develop early warning indicator for advisors when their clients are at risk of leaving the firm

Earnings Transcripts September 2018 – Present

Earnings Transcripts can prove to be a very useful alternative dataset when utilized properly. Every three months, company executives update the public on how their companies are performing. Comparing historical calls as well as calls with related companies can give insight as to how a company is doing comparatively.

- Used Selenium to scrape earnings transcripts from the internet
- Built data pipeline to retrieve latest earnings transcripts every day
- Developed a web-based dashboard to quickly search through transcripts for specific key words
  - Searches for a company across time as well as a list of companies over a specific quarter
- Integrated machine learning models for predicting company performance

SEC Edgar Database July 2018 – December 2018

The SEC makes corporate filings publicly available on the EDGAR website. These filings contain valuable information which can be used to help predict the future success of a company. As the data engineer on the team, I created a data pipeline to process the filings from EDGAR.

- Used Scrapy (a Python based web scraping framework) to systematically retrieve documents from EDGAR
- Converted HTML documents from EDGAR to plaintext
- Performed additional data wrangling and formatting
- Incorporated machine learning model to analyze documents using Natural Language Processing
- Productionized pipeline for clear and consistent execution on a daily basis

Consumer Reviews March 2018 – July 2018

Research teams at AllianceBernstein across multiple disciplines were curious about the possibility to develop a model using consumer reviews. When analyzed properly, consumer reviews can provide insight into the performance of products before official sales numbers are released.

- Built multiple web scrapers to retrieve consumer reviews from various websites
- Designed data schema to accommodate reviews from different websites
- Built front-end Angular dashboard allowing users to compare reviews across different car models and websites
  - Contains interactive charts with review statistics
  - Refreshed daily by tapping directly into data pipeline
- Used natural language processing to extract sentiment from review text

Short Sellers November 2017 – January 2018

The goal of the short seller project was to determine the validity of short seller performance claims. Many short sellers announce their successes but it's hard to determine what percentage of their shorts are successful.

- Built web scrapers to extract data from social media and news outlets
- Created process to identify historical short targets
- Compared list of short targets with short seller claims