NYU TANDON SCHOOL OF ENGINEERING

People Analytics Hackathon by TechSHRM

March 10, 2020

Overview

People Analytics is about using a data-driven approach to inform your people practices, programs and processes. Analytical techniques, ranging from reporting and metrics to predictive analytics to experimental research can help you uncover new insights, solve people problems and direct your HR actions.

When faced with a challenging people issue (e.g., are we losing our organization's highest performers and why?) or an important people decision (e.g., who should lead this new initiative?), the conventional approach is to engage in endless debate based on emotions, instincts and anecdotes. An analytical approach incorporating facts and science can lead to more effective and fair solutions and decisions.

To start, the People Analytics guides cover some basics and shed light on how to begin adopting data-driven decision approaches in HR. This is a fast-moving topic with new methods and techniques being added rapidly; we will keep abreast of the advances in the field and add more content in the future.

Problem Statement:

Identify medical professionals who are at risk of turnover

Problem Description:

Turnover is very expensive and disruptive to an organization. A supportive organizational culture reduces the risk of turnover. Many organizations use survey results to identify causes of turnover and at-risk employees.

Probable Use Case:

Organizational psychology, turnover studies

About the Dataset:

Approximately 1,500 survey responses from NYC medical professionals with 37 features and one label indicating the level of turnover risk.

- 1,556 survey responses from NYC medical professionals.
- 37 features, survey responses and demographics.
- One labeled variable indicates turnover risk (q58, 1=low, 5=high).
- Training dataset: n = 1,100.
- Testing dataset: n = 456.

Evaluation Criteria:

Prediction accuracy – Sensitivity, AUC, weighted kappa.

Pre-Evaluation submissions:

March 20th: Non- Technical Abstract

April 3rd: Technical Abstract

More information on this and sample files will be shared with you accordingly.

Incentive:

The winner gets to present at Tech SHRM AI at the Workplace Conference which is hosting speakers from Accenture, IBM, Johnson & Johnson ….

and

You get to add a shiny new project to your github profiles.

Tools & Technology:

Feel free to use any languages or libraries. Here are some resources to get you started

Resources and References:

For those of are absolute beginners here is a very detailed blog article:

https://medium.com/machine-learning-for-humans/why-machine-learning-matters-6164faf1df12

Supervised Learning:

https://www.analyticsvidhya.com/blog/2016/01/complete-tutorial-learn-data-science-python-scratch-2/?utm_source=blog&utm_medium=Comprehensive-learning-path-ds-python-page

Deep learning:

1. https://www.youtube.com/watch?v=aircAruvnKk&list=PLZHQObOWTQDNU6R1_67000Dx_ZCJB-3pi (deep learning visualized)
2. https://www.youtube.com/watch?v=gZmobeGL0Yg&list=PLZbbT5o_s2xq7LwI2y8_QtvuXZedL6tQU

Visualization - We recommend using the basic packages but if you want to be creative check out this: (https://d3js.org/)

https://www.analyticsvidhya.com/learning-paths-data-science-business-analytics-business-intelligence-big-data/newbie-d3-js-expert-complete-path-create-interactive-visualization-d3-js/

Glossary:
https://www.analyticsvidhya.com/glossary-of-common-statistics-and-machine-learning-terms/

Additional:

https://machinelearningmastery.com/types-of-learning-in-machine-learning/ (Learning ML from scratch)

https://www.youtube.com/user/keeroyz (Stay up to date with the current research trends in ML)

Frequently asked questions

Who can attend?

Anyone at NYU! If you're reading this, you can attend. This includes people who have never been to a hackathon before.

What size can a team be?

Teams can be formed between 3 and 5. If you are still looking for a team, don't worry, we will help you. Don't forget to fill out the Skills Survey Form in order for us to put you into the best group. We encourage teams as this competition requires insights from multiple perspectives.

We want you to have a great time and tons of fun. Just make yourself comfortable and we're sure that you'll take an awesome idea from concept to reality and enjoy yourself.

Got questions? We have answers for you. If you can't find what you're looking for, send an email to bv643@nyu.edu