Graph AI 2021 Session - 101
Intro to Recommendations with Tigergraph and Python

Abstract

The ability to quickly and accurately assess user behavior and then provide relevant recommendations is fundamental to nearly every business. But in a world swimming with data, tools and complexity, the path from simple historical to predictive and prescriptive analytics can be a long and winding road. In the next 40min, we will provide a roadmap to greatly accelerate that journey using the Tigergraph database platform and a number of existing tools and techniques, allowing even a beginner data scientist to produce insight and answers within a few short hours….

Themes - This session will focus on a number of simple yet powerful techniques to drive the recommendation building process

- Stick to proven tools and languages, reduce ramp time
- Start small, think scale
- Focus on outcomes

Toolbelt - there are a wealth of existing tools, solutions and techniques, today we will focus on:

- Docker - pre-configured Tigergraph instance
- PyTigerGraph - python library
- Node2Vec - TG library

Techniques

Node2Vec -

Latent Factor Model - used at Netflix - best approach

Handles NaN (missing data), which is important factor in Recommendors

Links

https://parkererickson.github.io/graph-ml/papers/

Graph AI 2020 Sessions: https://www.tigergraph.com/graph-ai-world-sessions/

Parker - PyTigergraph
https://info.tigergraph.com/graph-ai-world-pytigergraph?submissionGuid=197e67ac-1c2e-4b28-a05a-4e07214d86e6
Recommendations - Mingxi:
https://info.tigergraph.com/graph-ai-recommendation-engine
Herke/Dan-Optum

https://info.tigergraph.com/graph-ai-world-data-science-thank-you?submissionGuid=e28040f4-12f5-412f-9b09-cb7dbc3ec2d3

Outline / Flow

- 101 - Docker -> TGCloud
  - Fast simple, 90min to recommendations
- 201 - Recommendations (built-in algorithms)
- 202 - Flight Delays
- 301 - In database ML
- 401 - Viz/Looker/Tab/PyPlot

Notebooks - Source Data

- Recommendations = Movies
- On time arrivals - Flight Delays - time series

Github - basic steps

- Setup

Always Pull Before a Push

- Git clone https://github.com/ainfanzon/TG-jupyter-101.git

Make sure you are up to date with

- Git pull https://github.com/ainfanzon/TG-jupyter-101.git

Usage: `git config –global user.name "[name]"`

Usage: `git config –global user.email "[email address]"`

- Pull