

Agile Data Science Project

Project goals

To build, following the Agile methodologies best practices and the MLOps recommendations, a ML-based recommendation system with some of the following components:

- Data dashboard / understanding
- Data Storage
- Data cleaning pipeline
- Model training pipeline
- Model evaluation pipeline
- Model registry and Monitoring mechanisms
- Model serving
- Model consumer app

Epics (for instance)

- US1- As an Analyst I want to be able to analyze the data to understand it and to monitor it, so that a Recommender can be done.
- US2- As a Recommender Developer, I want to obtain the recommendations in batch, so that a Recommender can be done.
- US3- As a Data Scientist, I want to be able to reproduce the experiments and results, so that a better version of a Recommender can be done
- US4- As a DevOps, I want to register and control the model versions, so that the Quality of the recommender can be tracked
- US5- As a Data Scientist, I want to monitor the model performance and retrain if needed easily, so the Quality of the recommender can be Improved
- US6- As a User, I want some movies recommendation for this evening Movie Session, so I can enjoy it
- US7- As a User, I want a Web Application where i can search for recommendations, and I can store my preferences and ratings

Rules

- You have 3 sprints to do it
- Every member of the team has to work on the project and do specific tasks
- You have to follow the Scrumban Agile Methodology (product backlog, sprint planning, daily meetings, demo, retrospective, kanban...)
- You can use (up to you) all the tools that we explain during the course

Calendar

2/11/2023	Init Sprint 1: Backlog Product, Sprint Planning A	Tech	Project	2	Enrique
3/11/2023	Init Sprint 1: Backlog Product, Sprint Planning B	Tech	Project	2	Eloi
9/11/2023	Sprint 1: Working in	Agile	Project	2	Enrique
10/11/2023	Sprint 1: Working in	Agile	Project	2	Eloi
16/11/2023	Sprint 1: Demo Review + Retrospective, Sprint Planning A	Agile	Project	2	Enrique
17/11/2023	Sprint 1: Demo Review + Retrospective, Sprint Planning B	Agile	Project	2	Eloi
23/11/2023	Sprint 2: Working in	Agile	Project	2	Enrique
24/11/2023	Sprint 2: Working in	Agile	Project	2	Eloi
30/11/2023	Sprint 2: Demo Review + Retrospective + Init Sprint 3 Planning A-B	Agile	Project	2	Enrique
1/12/2023	Sprint 2: Demo Review + Retrospective + Init Sprint 3 Planning A-B	Agile	Project	2	Eloi
14/12/2023	Sprint 3: Working in	Agile	Project	2	Enrique/Eloi
15/12/2023	Final Group Presentation	Agile	Project	2	Enrique/Eloi

Evaluation

- 2 demo days (partial product) + 1 final demo (15/12)
- It is important:
 - To provide evidences that you are following the Agile methodologies. Use of Github project, issues and pull requests are mandatory. The ScrumMaster is in charge of gathering the documentation
 - Methodology is MOST IMPORTANT than technical final solution
 - You are following the MLOps best practices (dockers, model registry, pipelines, model metrics ...)
 - Scrum Master upload Sprint template spreadsheet after the demo

Sprint Template Example

https://eloipuertas.github.io/ADS/ph_product_sprint_backlog_0.03.xls

Release plan (Sprints)

Product backlog, (Priorities)

Product backlog burndown chart, (Plan size, Velocity)

Sprint Backlog (Estimations and Remaining effort)

Daily Meeting report (Done since last meeting, to do for next, blockers)

Sprint Retrospective (What was good, What wasn't so good, Improve for next)

Team Self-Assessment:

Code Example

<https://github.com/maciejkula/spotlight>



build passing build passing chat on gitter Anaconda.org 0.1.5 docs latest progress tracker trello

Spotlight uses [PyTorch](#) to build both deep and shallow recommender models. By providing both a slew of building blocks for loss functions (various pointwise and pairwise ranking losses), representations (shallow factorization representations, deep sequence models), and utilities for fetching (or generating) recommendation datasets, it aims to be a tool for rapid exploration and prototyping of new recommender models.

Group A: Thursdays

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