twiml

AI Enterprise Workflow Study Group

Course 1, Week 1

2/22/2020

Agenda

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- About the courses
- Course/study group schedule
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- C1W1 key concepts
- Discussion
- Next steps

About the Study Group

The goal of the study group is to provide **support** and **encouragement** to course participants to help them overcome any rough patches, stick with it longer, and learn more. We use the following to do this:

- **Course channel on the TWIML Community slack.** We'll be collaborating via the Slack, which you're automatically be invited to when you join the Community. When study groups are underway the conversation there can be quite lively. Once you've joined the Slack, introduce yourself on the #intros channel and join the #ai_enterprise_workflow channel and say hi 👋.
- **Weekly support sessions via Zoom.** We meet weekly via video conference to discuss the week's lesson, what we've learned so far, and any stumbling blocks. You're encouraged to join whether or not you have specific issues you need help with.

Soundoff

- Your data science/ML background?
- What are you hoping to get out of the course & study group?

About the Courses

The AI Enterprise Workflow specialization on Coursera consists of a series of six courses. Each of the courses is designed to be completed in two weeks, except for course six, which has two weeks of study and two weeks for a capstone project.

The courses aim to give learners with some data science experience an understanding of real-world processes and workflows used to deliver AI and ML models in the enterprise.

Our study group will meet weekly on Saturdays at 9:30 am Pacific Time and will continue for 14 weeks.

You should plan to spend around 8 hours a week to complete the material.

Course & Study Group Schedule

AI Enterprise Workflow Study Group		
Session	**Topic**	**Date**
Overview Webinar	Webinar with instructor, Ray Lopez	15-Feb
Course 1 Week 1	Course intro	22-Feb
Course 1 Week 2	Data ingestion, cleaning, parsing, assembly	29-Feb
Course 2 Week 1	Exploratory data analysis & visualization	7-Mar
Course 2 Week 2	Estimation and NHT	14-Mar
Course 3 Week 1	Data transformation and feature engineering	21-Mar
Course 3 Week 2	Pattern recognition and data mining best practices	28-Mar
Course 4 Week 1	Model evaluation and performance metrics	4-Apr
Course 4 Week 2	Building machine learning and deep learning models	11-Apr
Course 5 Week 1	Deploying models	18-Apr
Course 5 Week 2	Deploying models using Spark	25-Apr
Course 6 Week 1	Feedback loops and monitoring	2-May
Course 6 Week 2	Hands on with OpenScale and Kubernetes	9-May
Course 6 Week 3	Captsone project week 1	16-May
Course 6 Week 4	Captsone project week 2	23-May

Check in

At this point, you should have:

- Access to the courses via Coursera
- Access to the TWIML Community Slack and joined #ai_enterprise_workflow
- Signed up for Watson Studio free tier or have another place to run notebooks
- Extra credit: Signed up for IBM AI Learning Community https://community.ibm.com/community/user
- Completed week one of the first course

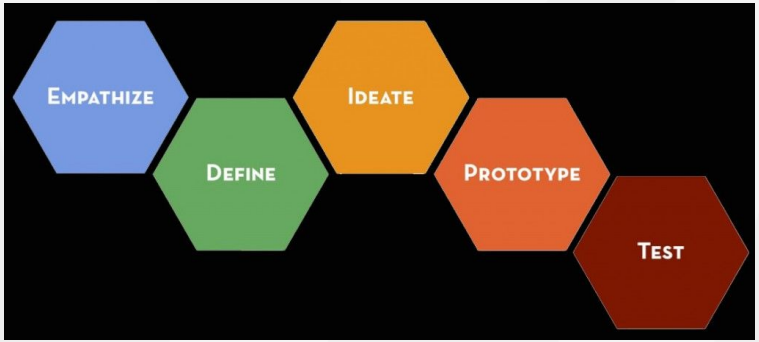
Course 1 learning objectives

1. **Know the advantages of carrying out data science using a structured process**
2. **Describe how the stages of design thinking correspond to the AI enterprise workflow**
3. **Discuss several strategies used to prioritize business opportunities**
4. Explain where data science and data engineering have the most overlap in the AI workflow
5. Explain the purpose of testing in data ingestion
6. Describe the use case for sparse matrices as a target destination for data ingestion
7. Know the initial steps that can be taken towards automation of data ingestion pipelines
8.
9.

Key concepts

- Readiness quiz
- Design thinking
- Data collection
- Prioritizing opportunities
- The scientific method
- Gathering data

Design thinking



Playbacks, Hills & Sponsor Users

Data science

- Data collection
- Exploratory data analysis
- Transformations
- Models
- Production

Agile

- Standups
- User stories
- Demos

Data collection (empathize)

1. Get as close to the source of data as possible usually by interviewing the people involved
2. Identify the business problem
3. Obtain all of the relevant the data
4. Translate the business problem into a testable hypothesis or hypotheses

Prioritizing business opportunities

1. Articulate the business question
2. Prioritize based on:
    a. Stakeholder opinion
    b. Feasibility
    c. Impact/value

The scientific method

It is the process by which science is carried out. The general idea is to build on previous knowledge in order to improve an understanding of a given topic.

1. Formulate the question
2. Generate a hypothesis to address the question
3. Make a prediction
4. Conduct an experiment
5. Analyze the data and draw a conclusion

Gathering data

Describe the ideal data needed to test the hypothesis

ETL process & data sources:

- Text files
- Databases
- Web scraping & APIs
- Big data & streaming

Discussion

What did you learn?

What stumbling blocks did you run into?

How do these lessons relate to your experience?

What did you learn/find interesting in this week's lesson?

What are you doing as homework?

What interesting resources have you found?

Other?

Next steps

Review Week 2 materials

Chime in on Slack if you run into any issues or want to share any observations

Prepare your questions, discussion points, etc. for next week's meetup