DS DATA SCIENCE UA

Introduction to Data Science, Analytics and Artificial Intelligence course

Oleksandr Romanko, Senior Research Analyst, Watson Financial Services, IBM Canada
Adjunct Professor, University of Toronto and Ukrainian Catholic University

Saturday, April 14

Introduction to data science and analytics (10:00-11:30)

1. Data science concepts
2. Application areas

Coffee Break (11:30 - 11:50)

Getting data into Python (11:50-13:30)

1. Working with CSV and JSON format/files
2. Web-scraping in Python
3. Using APIs in Python (Twitter API, New York Times API, etc.)
4. Using cloud AI services from Python

Lunch (13:30-14:30)

Announcement of optional mini-competition and prizes (14:40-14:50)

Machine Learning I – linear and logistic regressions (14:50-16:00)

1. Modeling process and machine learning
2. Optimization for regression modeling, data science and AI
3. Linear regression

Coffee Break (16:00 - 16:15)

Machine Learning I – linear and logistic regressions (16:15-17:00)

1. Logistic regression
2. Regression case studies in Python

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Sunday, April 15

Machine Learning II – advanced classification and clustering (10:00-11:30)

1. Classification (decision trees, SVM, kNN)
2. Clustering (K-means, Fuzzy C-means, Hierarchical Clustering, DBSCAN)
3. Association rules
4. Ensemble methods (random forests, Xgboost)
5. Machine learning case studies in Python

Coffee Break (11:30 - 11:50)

Part I – Cognitive computing and artificial intelligence (11:50-13:30)

1. Text analytics and Natural Language Processing (NLP)
2. Reinforcement learning
3. Neural networks and brief introduction to deep learning

Lunch (13:30-14:30)

Company presentations (14:40-15:00)

Presentations by finalists of mini-competition (15:00-15:30)

Part II – Cognitive computing and artificial intelligence (15:30-16:15)

4. Spatio-temporal analytics
5. Cognitive computing case studies in Python

Visual analytics and storytelling based on analytics (16:15-17:00)

1. Visual analytics and visualizations
2. Validating analytics
3. Storytelling based on analytics
4. Decision-making based on analytics

Afterparty (17:30-19:00)