

JIRI STODULKA

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SOFTWARE & SKILLS

AI: Machine learning (Scikit-learn), Deep Learning (Keras, PyTorch), recommender system, time-series.

Visualization: data analysis (Matplotlib, Seaborn), dashboard (Plotly), geospatial data (Folium).

Cloud Service: AWS (SageMaker, EC2, S3), IBM Watson.

WORK HISTORY

Data Scientist, STAGEPAGE Inc. 02/2020 – present (Toronto)

- Built recommender engine, while using hybrid approaches scoring as high as 0.4 Mean Average Precision, to help customers find the best fit shows to attend.
- Designed easy-debugging features in clean Python scripts that proceeded to deployment.
- Solved the cold-start problem and engineered features for users and shows. Performed model optimization to ensure the least loss error.
- Designed neat GUI and deployed model (with Flask) to enable domain experts to validate it.

Data Scientist, BECLOUDREADY Inc. 12/2019 – 04/2020 (Toronto)

- Delivered a solution around low volume of time-series data for demand forecasting of 15,000 SKUs: applied ensemble methods, e.g. random forest regressor and deep learning (Keras), on engineered and clustered sales segments. Forecasted demand for these items in inventory while reducing old forecasting error of 25% to 6%.
- Scaled the company's proposition value: engineered 300 interaction features from initially three available variables. Leveraged ML techniques to select the most important features accounting for 85% R^2 and 6% forecasting error.

Customer Facing Data Scientist, SALESCHOICE Inc. 03/2019 – 11/2019 (Toronto)

- Utilized IBM Watson and Natural Language (NLP) toolkits for R&D. Used linguistic analytics to infer individual personality characteristics from digital communication.
- Coordinated with IBM on OCE grant R&D Project.
- Launched enterprise sales cycles with major clients (e.g. Stripe, AdRoll).
- Created a playbook to communicate the value of AI to these and other clients.

Data Analyst, GEMINI EYE CLINIC 09/2016 – 07/2018 (Prague)

- Initiated the idea of implementing a franchise model for the clinic. Performed background research (including traveling to the Netherlands to talk to franchising expert) and built ML models to predict the effect of the strategy on profits.
- Helped put in place the new franchising model, which ultimately increased revenues by 15%.
- Worked with large datasets, e.g. wrote SQL queries in R Studio (DBI), utilized tidyverse.
- Utilized data visualization techniques and created dashboards; e.g. ggplot2 in R and Pivot Charts.

DATA SCIENCE PORTFOLIO (Projects and GitHub: www.jiristodulka.com)

Collaborative Filtering: Matrix Factorization Recommender System 2019

Built matrix factorization model on utility matrix with 600 users, 10,000 items, and 100,000 ratings.

Trained and evaluated SVD and NMF algorithms with Surprise package.

Cross-validated the models and found ideal hyperparameters to minimize loss.

Translated information about the users' history, recommendations, and metadata from various datasets.

Toronto Crime and Folium 2019

Integrated ML into data analytics and improved Toronto crime dashboard published by Toronto Police Department. In Python, clustered and visualized criminal neighborhoods in interactive Folium heatmap.

Concluded there is 5% chance to be bodily harmed during assault in the City.

Web Scraping Reddit: Text (Sentiment) Analysis 2019

Created a playbook to identify causes of negative sentiment associated with early launch of a new product. Introduced a method how to deliver and visualize customers' satisfaction in real time. In R, scraped Reddit forum: Cannabis Legalization in Canada.

Other Projects

Supervised Machine Learning with Scikit-learn and Diabetes 2019.

Naïve Bayes and Fake News Detection (Accuracy 70% on 20,800 news dataset).

EDUCATION

MA in Applied Economics (Machine Learning, Data Science, Quantitative Research) 2018

Center for Economic Research and Graduate Education – Economics Institute (CERGE-EI)

CERGE-EI is in top 5% of globally ranked Economics institutions; US-Chartered Degree - New York.

Elected as a Speaker at Graduation Ceremony

BSc in Business Administration (Statistics, Economics) 2017

State University of New York in Prague (UNYP)

UNYP offers Bachelor's, Master's and PhD programs in partnership with US/European Universities.

Academic Recognition for outstanding GPA