Ilya Perederiy

www.expunctis.com
github.com/ex-punctis

Mississauga, Ontario
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Skills

- Data extraction, clean-up, explorative analysis and modelling using **Python**, **R**, **Excel**, **SQL (**familiar with NumPy, scikit-learn, OpenCV, Keras, Matplotlib, Requests, BeautifulSoup, dplyr, ggplot2)
- Presenting and visualizing using **HTML+CSS, JavaScript**
- Apache **Spark** (in progress)
- Comfortable with ***nix** utilities/scripting
- Client engagement (scoping, scheduling, reporting, follow-up interaction)

Employment

Metallurgical Consultant *2016-2018*

Took part in the development of two know-how processes

Analyzed plant process model and identified optimal integration points.

Aggregated literature data into reference spreadsheets.

Vale Base Metals Technical Excellence Centre (Mississauga, Ontario, Canada), Researcher *2011-2015*

Supported internal clients (operations and engineering) with data analysis (in excel) and laboratory testwork

Cut report preparation time by 70% by automating aggregation and processing of chemical assays.

Decreased laboratory testwork man-hours in the autoclave group by optimizing decision trees and reducing the impact of unaccounted factors.

Successfully traced the source of a foreign substance in a plant circuit by pulling hourly operational data from the plant's PI System server and analyzing it for irregularities in temperature and material flow rates.

Created a robust autoclave circuit model with built-in sensitivity analysis that successfully provided guidance during a mini-plant test campaign.

Projects (www.expunctis.com and github.com/ex-punctis)

Analysis of local car colour preferences: I set up time lapse photography of an intersection, utilized YOLOv3 for car detection and k-means clustering for colour extraction. Finally, I employed several clustering methods in 3 colour spaces to account for variations in brightness/tone and summarize the data as an easily readable spectrum chart.

Analysis of popular opposition to an application to disable on-line access to piracy sites: I scraped and parsed public comments from the CRTC's website using Requests/BeautifulSoup in Python and carried out exploratory analysis in R with the focus on campaign propagation routes and discrepancy between activity in the Francophone and Anglophone segments.

Vector Transformation Visualization Tool: I wrote a js library to create interactive visualizations of vectors and their transformations in $\mathbf{R}^2$ that is both flexible and simple.

Personal blog/ project portfolio (www.expunctis.com): I designed and deployed a static website based on a heavily customized Jekyll theme with custom-made js scripts.

Education

MOOCs: machine learning, statistics, finance, accounting, operations management, marketing and economics *2015-2018*

University of Toronto, Ph.D., Chemical Engineering *2005-2011*

Ural State Technical University, Dipl. Eng. (Hons), Extractive Metallurgy *1999-2004*