York University CSML1030-04 Machine Learning Capstone

Milestone 3: Project Peer Reviews

September-4-20

Reviewee: Data Knights
Reviewer: Manik Insights

Team Data Knights is working on one of the Krembil Centre for Neuroinformatics – CAMH projects. Their task is to build a binary classification model of sleep deprivation based on brain images of ~800 patients. Their progress video is very well organized with the scope and the challenges involved very well defined. They walk us through the steps they are currently taking to realize the project. They present the data preparation steps that they are undertaking, namely image normalization. They then talk about feature selection and the options of generating videos of the brain images or instead utilizing time series and connectomes. Finally they talk about potential algorithms to apply to the data including neural networks. The audio was very clear.

The duration of the progress video was about 10 minutes, well over the specified 5 minutes. Perhaps some of the more detailed explanations could have been omitted. The visual material consisted of screen shots of team members' python IDEs and jupyter notebooks. While interesting, it was somewhat distracting. Some of the key points could have been distilled into 1 or 2 slides rather than have the viewer look at their python workspaces. Perhaps a more high level presentation would have been appropriate.

While their task of binary classification was clear, the ultimate purpose of classifying patients as sleep deprived or not from imaging data was not clearly stated. Is it expected to be more accurate than clinical data, or self-diagnosis? Is the image-based classification intended to help develop targeted treatment options? The Krembil Centre for Neuroinformatics is a research institute, so rather than speak to the "business problem" the team is addressing in this project it might be more appropriate to speak of the broader research problem they are helping address.

Video content score: 8
Quality and progress for chosen ML techniques: 8.5
Video Delivery: 7.5