Scaling-up email classification solution

SmartClassifier is a product developed by CIB analytics consulting which aims at automatically classifying incoming emails. Smart Classifier is used by client facing generic mailboxes in order to classify customers' service requests and help desk serving staff to appropriately handle emails according to the type or priority of the request.

Depending on the difficulty of the task, the **NLP** models used are based on traditional machine learning methods, such as common vectorizers serving input to gradient boosting tree models for text classification or **deep learning** based approaches.

The current scope covered by SmartClassifier is expanding at a fast pace, which raises some new challenges related to the **scalability** of our solution. The intern will be at the forefront of these challenges, including:

- **Compression of models**: The intern will work to implement new methods such as **distillation**, for reducing deep learning models for inference.
- Implementation of **unsupervised sentiment analysis** methods in order to have a real time monitoring of the mailboxes covered in terms of client satisfaction.
- Design and implement methods for training and inference using text from documents attached to emails.
- Design, implementation and deployment of **MLops** pipelines.

The intern will also have a role of principal investigator on smaller proof of concepts for new use cases related to email classification, building the model and sharing back results with clients and stakeholders. Therefore, the intern will have the opportunity to work and develop the following skills:

- Implementing **state of the art models** for upgrading / adding to new features to an already existing solution.
- Working on a full **ML stack** from training pipelines to inference performance monitoring.
- Client's needs identification and presentation of the solution and results to a non-expert audience.

Practical Information:
Supervisor: WOUTERS Denis, Data Scientist, denis.wouters@bnpparibas.com
Location: Grands Moulins de Pantin, 9 Rue du Débarcadère, 93500 Pantin (Possible partial work from home)
Compensation: Competitive salary
How to apply: Please submit your application at paris.cib.analytics.consulting.careers@bnpparibas.com

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