



Predicting medical specialties

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FINAL PROJECT

Data Analytics Full-Time Bootcamp, June 2020

- Machine Learning in Healthcare
- Vision
- Workflow
- Model Implementation
- Main Challenges
- Future Perspectives



SUMMARY

Machine Learning for Healthcare

Machine learning in healthcare is one such area which is seeing gradual acceptance in the healthcare industry.



Machine Learning for Healthcare

Top three applications

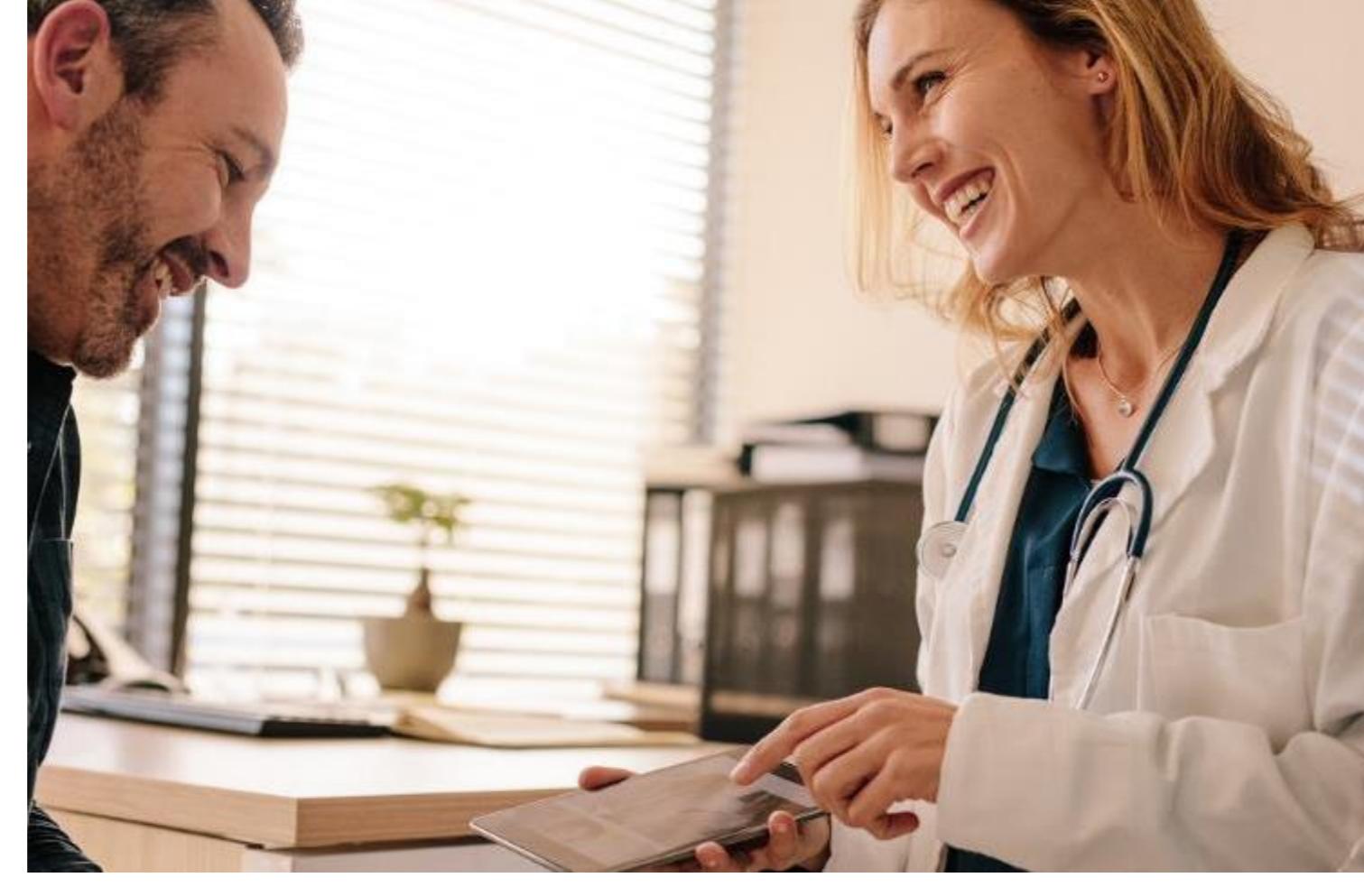
Diagnosis and Diseases

diseases and ailments
considered hard-to-
diagnose



Drug Discovery and Manufacturing

early-stage drug
discovery process



Medical Imaging Diagnosis

image diagnostic tools
for image analysis



<https://www.flatwoldsolutions.com/healthcare/articles>

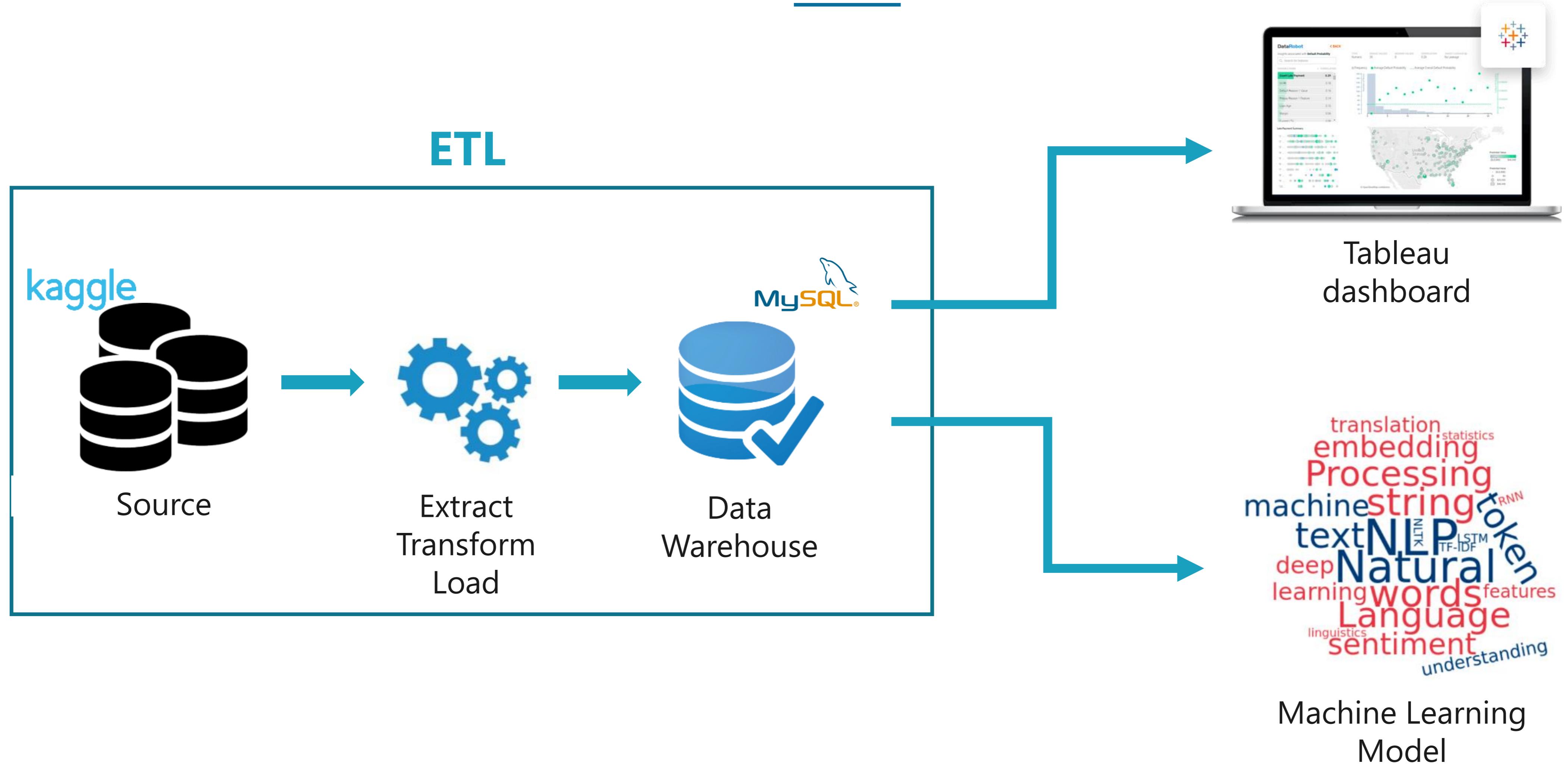


VISION

Aid healthcare workers identify the right medical specialty
based on the patient diagnosis transcriptions.



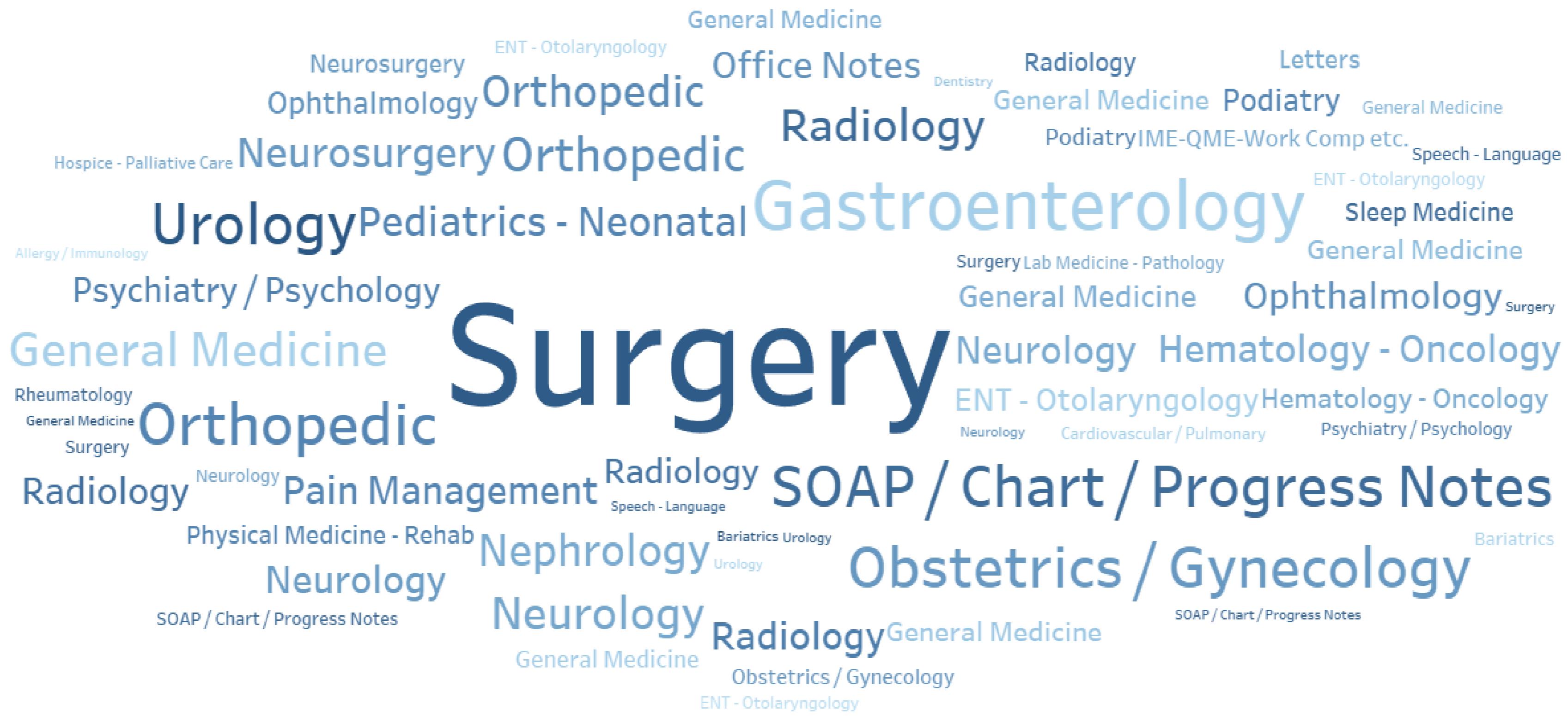
Workflow



Data Overview

40 Medical Specialties

4966 Medical Transcriptions



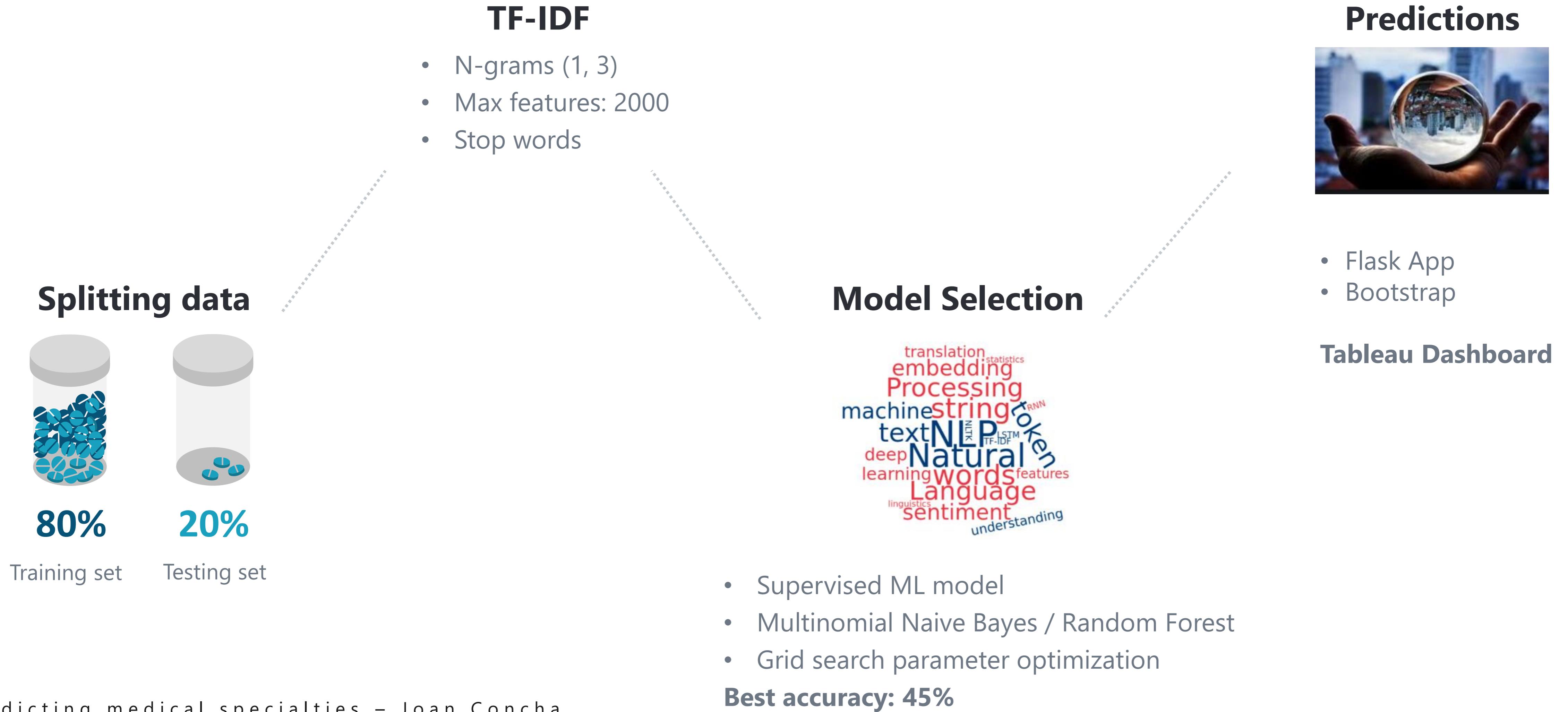
Data cleaning

- Class Imbalance
- Null rows
- Necessary transformations (blank spaces)



Cleaned dataset insights-> https://public.tableau.com/profile/joan.concha#!/vizhome/final_project_dashboard/Firstdashboard

Model Implementation



- Choosing dataset.
- Too many medical specialties / poor information in some medical specialties.
- Low accuracy.
- Productivity.



MAIN CHALLENGES

Future Perspectives

More Data

Glintt software used in many hospitals (Portugal).

Predicting Keywords

Identify diseases, diagnosis, pharmaceutical drugs, and more.

NLP vs Neural Network

Improving the accuracy and the predictive power of the final model.

Improve the Flask app

Import lots of transcriptions at a time into a database.

A woman with short brown hair is smiling warmly at the camera. She has a stethoscope around her neck. The background is a soft, out-of-focus blue.

“The best way
to predict the future
is to create it”

Abraham Lincoln



ANY
QUESTIONS?