### **Initial Bsc Presentation**

Roadmap

Identification of handwritten and printed text: A study on HMM, SVM and CNN based methods

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### Nicolas Dutly

### My education

- Third year Bsc student
- Major : Computer Science (120 ETCS)
- Minor : Mathematics (60 ECTS)

#### Interests

- Machine Learning
- Statistics
- Linear algebra
- General topology



- Different OCR techniques for printed and handwritten text
- Extraction of handwritten elements in forms
- Removal of unwanted handwritten annotations



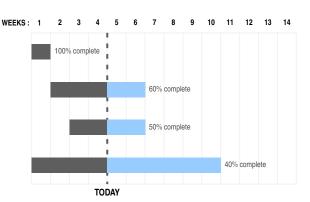
### **Timeline**

SVM: Theory

CNN: Theory

HMM: Theory

Reading papers







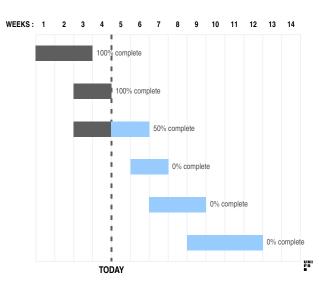
CNN feature extraction

SVM | HMM impl

Hyper parameter tuning

Extra features

Writing report



Roadmap

# Preprocessing

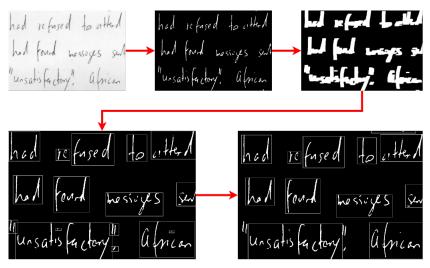


FIGURE - Word level segmentation

# CNN binary classification

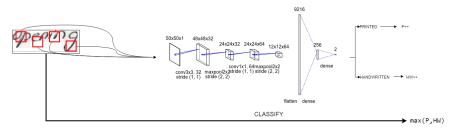


FIGURE - Binary vote style classification



## Experimentation result

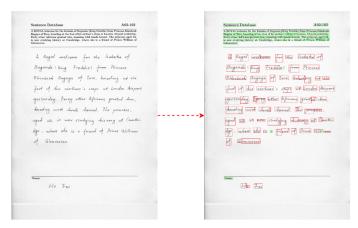


FIGURE - Test classification

