ANALYSIS-BY-SYNTHESIS FOR HISTORY

M. Aubry
École des Ponts ParisTech
`mathieu.aubry.2006@polytechnique.org`

I will present how interpretable analysis-by-synthesis approaches can be leveraged to tackle historical questions. First, I will present a Deep approach to Transformation-Invariant clustering, and illustrate how it can help the analysis of prints, and in particular book ornaments. Second, I will explain how such an approach can be extended to decompose images into multiple visual elements and combined with weak supervision. I will detail how this can be leveraged by paleographers to revisit core historical research questions. I will conclude with what I believe to be an important perspective for the development of analysis-by-synthesis: their potential to complement methods trained on synthetic data, to adapt them to real examples.