# Detection of Signatures in old Maps using Deep Learning



Master Thesis / Bachelor Thesis - IKG

## Motivation and goal



Old maps contain a lot of interesting information of the past reality. Most of maps are, however, only available in analogue form, and thus difficult to query and analyse automatically. The goal of this thesis is to explore modern deep learning methods to automatically detect signatures on old maps. There will be a concentration on certain types of objects, e.g. trees or buildings.

This topic can be also explored as a bachelor thesis – the contents would be adapted.

#### Tasks

- 1. Literature review
- 2. Familiarization with appropriate deep learning frameworks to solve this task
- 3. Identification and setup of training data; implementation of the deep learning network
- 4. Experiments and evaluation of results
- 5. Writing of the thesis

#### Materials

- Scanned old maps
- PyTorch deep learning or similar frameworks

### Examiner and supervisor

- Examiner/Supervisor: Prof. Dr.-Ing. habil. Monika Sester and Dipl.-Ing. Frank Thiemann
- monika.sester@ikg.uni-hannover.de; frank.thiemann@ikg.uni-hannover.de

Institute of Cartography and Geoinformatics, Appelstr. 9 a, 30167 Hannover