FIG WORKING WEEK 2023
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Protecting Our World, Conquering New Frontiers

Automatic Extraction of Buildings Boundaries Using Satellite Imagery with High Spatial Resolution and Deep Learning Methods

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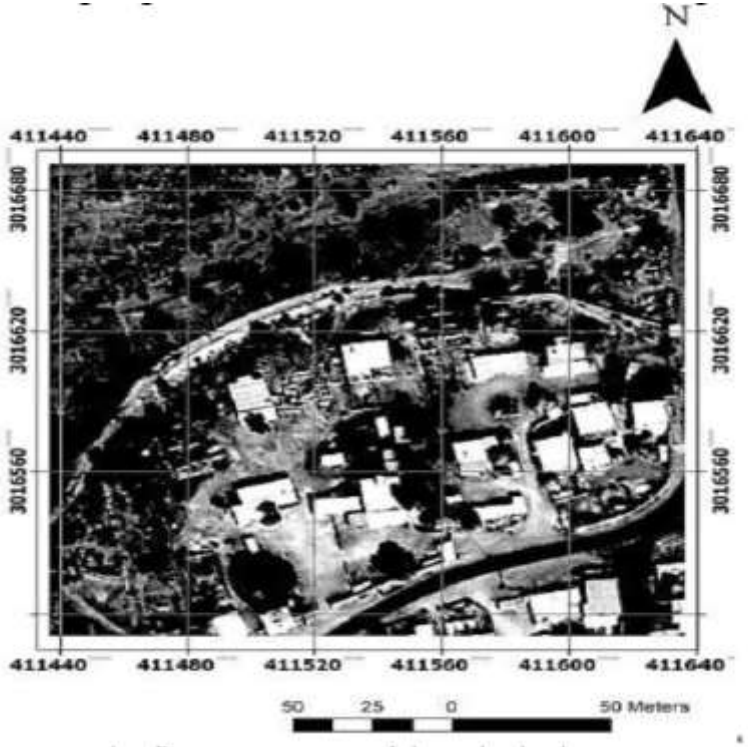
The study area and data



Launch time into space	2009
The height of the satellite orbit	770 km
The angle of the satellite orbit	97.2 °
Swath width	16.4 km
Radiometric resolution	11 bits
Band number	8 spectral band
Panchromatic spatial resolution	46 cm
Multi-spectral spatial resolution	1.84 m

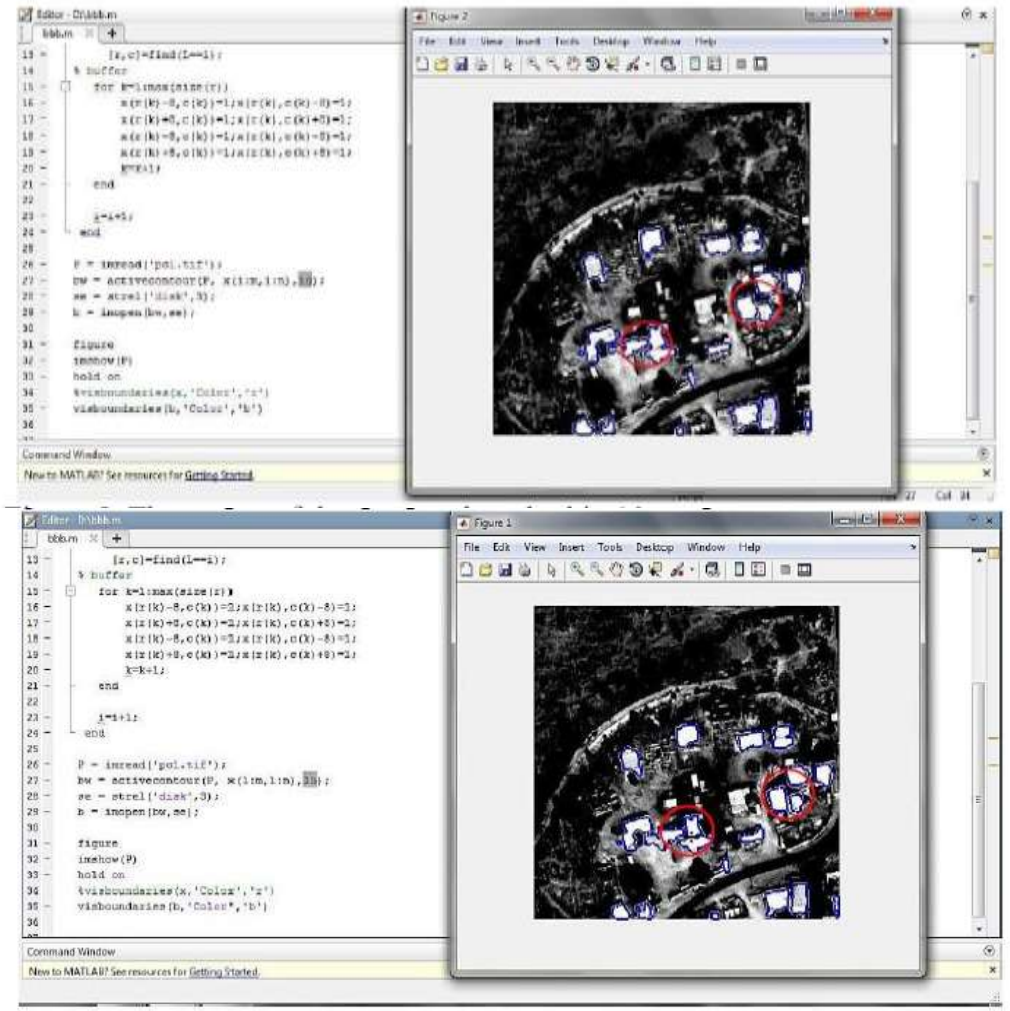
Introduction and Literature survey

- Development Infrastructures - Technologies
- Photogrammetry and Remote Sensing

- Wen Hao et al., 2013
  1) Laser Scanning data 2) Gaussian
- Shouji Du et al., 2017
  1) LIDAR 2) DSM
- Arvind Pandey et al., 2020
  1) Fuzzy 2) Quick Bird
- Yuting Zhu et al., 2021
  1) convolutional neural network 2) Edge-Detail-Network

Material and Methods

- Collecting the required research data including, satellite imagery, large-scale maps of the area,
- Pre-processing and preparing input data
- Determining the initial curves of the Margon model
- Preparing the input of the snake model
- Implementing the Margon Curve Model
- Post-processing
- Evaluation of results



Results and Conclusion

- Pre-process
- Applying morphological filter on classification results
- Preparing the input of the Margon model
- Implementing the input of the model

CONTACTS

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