Project Description Master Thesis

Project name	Visual Place Recognition of Images in Amsterdam.
Description	Images are a valuable source of information for the City of Amsterdam, since they could be used for locating problems in different neighborhoods or help enforce certain rules, ultimately improving the city's safety and livability. Hence, the municipality of Amsterdam is interested in the use of AI to locate images in Amsterdam. Last year another Master AI student started working on this project and used a Computer Vision model that could learn architectural features of buildings such that images of Amsterdam could be matched to the publicly available panorama images of the city. The model could already predict locations of images quite accurately. However, we believe that there are still a lot of techniques that could improve this visual place recognition task. Not only the Computer Vision model itself can be improved, also other aspects such as using available geo-information, city maps or other data could be smartly utilized to improve the accuracy of the model. This project already has a good base, but there is still a lot of variety and freedom in finding new techniques to improve the model. The nice thing about this project is that it will most likely really be used into practise if the achieved results are good enough!
Work environment	You will be working at the Housing department of the City of Amsterdam. This is where all expert knowledge regarding housing (policies, fraud, data interpretation, etc) resides. Due to the 'corona crisis', work is done remotely from home (for the foreseeable future). The team you will be working with is adept in working with online collaborations tools and can support you with this. If working from home is not possible or problematic, an alternative solution can be discussed.
Expectations	We are looking for a creative student that can discover and use new techniques to improve the visual place recognition model. It would be really nice if the municipality can eventually use the model into practise. Supervision will be shared between the academic institution (UvA/VU/...) and data scientists/analysts at the City of Amsterdam.