Project description AI master thesis

Question	Value
Project name	Image Recognition for Bicycle Lane Maintenance
Description	Cycling is the fastest-growing mode of transportation in Amsterdam and the Municipality of Amsterdam constantly takes measures to improve the cycling network in the city. Besides ensuring the availability of storage facilities and building new bridges, it is of utter importance to maintain and increase the quality of the bike lanes. Thus, having enough information about the current state of all bike lanes within the city is crucial for the municipality in order to make them nicer, wider, smoother and safer for all citizens. To give a few examples, for every bike lane, the municipality needs to know what type it is, how wide it is, what material it was made of, what color does it have, how is it separated from the car road and whether cars are allowed to cross it, what is the current quality... Unfortunately, having civil servants walk around the city to describe these features for each and every bike lane is not an optimal long-term solution for this information need. Hence, the municipality would like to explore the possibility of applying Computer Vision techniques to automate this process. There are multiple sources available for this project. The locations, sizes and materials of some bike paths, for example, are included in the Large-scale Topography (BGT) map of Amsterdam. Panorama images are also available for analysis, as well as other publicly available and internal datasets. For this project, we are looking for highly motivated students with an interest in Image Recognition, passionate about working with scientifically interesting real world data and full of ideas on how to make use of the latest research in the area to help the City maintain a clear picture of its cyclist infrastructure.
Work environment	Supervision will be shared between the academic institution (UvA/VU/…) and data scientists/analysts at the City of Amsterdam. Within the City of Amsterdam, the student will work with experts from the Beeld en Data team at the Ruimte en Duurzaamheid department. Once a week all students gather at the Datalab for more in-depth technical support. Both environments are very informal, and aim to achieve directly applicable results (i.e. not merely an academic paper). What we offer: ● Freedom and responsibility ● Working in a team of experienced people ● Successful outcomes will be implemented ● A monthly internship compensation

Expectations	The results of this project should be directly applicable and relevant to the municipality, and will be used for implementing a structural solution that would help gather the required information on a yearly basis. In addition to the delivery of useful predictive models, relevant results also include byproducts of the whole data analysis/processing pipeline that could be turned into insightful reports.
Duration	6-9 months
Programmes	Master AI (6/9 months);
Contact	