Project Description Master Thesis

Project name	Image Recognition for Road Surface Condition Monitoring
Description	At the City of Amsterdam, the department Mobility and Public Space is as asset owner responsible for the management and maintenance of the public space and specifically for the roads for the public use as important perpetrators of the city's infrastructure. This is important for the residents and visitors of our city - users must be able to move around safely and quickly, but also feel comfortable and at home in the city of Amsterdam. The currently applied methods for road surface inspection takes a lot of time and the human factor influences the result. There are several national initiatives for automating this process that have not yet led to the desired result. This year we also did a pilot with a consultancy company and are now looking for a good sequel. By using AI, we hope to develop a method that enables us to quickly, efficiently and unambiguously collect data about the state of our roads. More specifically, the aim of the project is to automatically determine damage on the road surfaces as a result of aging and wear and tear. The most important dataset for the project are the panoramic images recorded by the City of Amsterdam which are publicly available via data.amsterdam.nl. Furthermore, the student will be provided with access to our database containing the records from visual inspections - the traditional way of collecting the desired data compliant with [redacted]
Work environment	Our organization is multidisciplinary in everything that has to do with public space. A total of approximately 450 people work at Mobility and Public Space ("Verkeer en Openbare Ruimte"). In the Assets Pavements department, we work with 20 colleagues together with other organizational units to maintain our beautiful city. In connection with the Corona measure, work will currently be done from home. In case of need for consultation, the team will be using [redacted] and there is a possibility to incidentally meet at the office.
Expectations	The results of this project should be directly applicable and relevant to the Mobility and Public Space department of the City of Amsterdam (i.e. not merely be an academic paper). 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. Supervision will be shared between the academic institution (UvA/VU/...) and data scientists/analysts at the City of Amsterdam.