SAXION
HOGESCHOOL

INFRASTRUCTURAL DAMAGE PROJECTION THROUGH AUGMENTED REALITY

YOUR JOB	Resesarch and build a prototype app that can project damage on infrastructural objects through augmented reality.
DESCRIPTION	Maintenance of infrastructural objects like bridges is a time consuming but necessary task. Currently, this is done by an inspection that often results in an extensive report that requires quite some time to read and understand. When inspecting an object on sight, this working method makes it difficult to discern where certain damage exist since this either has to be had from the report or requires a keen eye by the inspector. To allow for a quicker and better on-sight inspection of infrastructural objects, augmented reality could be used. Here a smartphone or AR glasses could be utilized to project damage on the exact location. However, to develop such an application, one problem that needs to be solved is how to determine the position of the AR device in relation to the object. For this problem, we would like your help! Within this assignment you will have to specifically look into: - What kind of methods are available to determine the position of an AR device in relation to an infrastructural object. - How to deal with different weather and light conditions. - How to project known damage on an infrastructural object.
ABOUT YOU	You are CMGT or HBO-ICT graduate student with a interest in computer vision and augmented reality.
ABOUT US	During your graduation you will work for the research group of Ambient Intelligence. The group's research focusses primarily on applications related to safety, sports and smart industry in the area of connected embedded sensor, data sciences and augmented interaction. During the graduation you will work in the Saxion XR Lab where we connects education, research and external organisations around XR (VR & AR), game technology, storytelling and 3D. The lab is located in the Saxion Alphons Ariëns building, where you will work together with other students and researchers. During your graduation, you will have ample time to engage in lots of fun activities & meet-ups.
PERIOD	September 2020 – January 2021
REIMBURSEMENT	You will receive a standard Saxion graduation reimbursement of around € 240,- per month.
CONTACT & **MORE INFORMATION** **(SEE NEXT PAGE)**	Matthijs van Veen **m.w.vanveen@saxion.nl** 06 - 190 73 976