Do you want to immerse yourself in geographical data and develop, test and apply algorithms to make the process more efficient? We are happy to make space for new talent! We are looking for an:

algorithms optimisation trainee

At Kadaster (the Dutch Land Registry Office), we work with geographical data that we print and display on map sheets. From an environmental and cost-saving point of view, we want to use as few card sheets as possible in the future. We can really use your input in this effort!

**Map sheets**

The data displayed on the map sheets is very diverse. For example, it includes points, lines, polygons or any combination. Some examples are network drawings, route maps and the location of cables and pipes on farm land. Currently, we use tooling that automatically puts the data on the map sheets. The configuration of this tooling is not yet optimally effective. That is why we move card sheets manually to minimise the number of sheets. To make the process more efficient and to save time, we are going to automate this process.

**What will you do?**

You will review the corresponding optimisation problem of reducing the required number of map sheets. You develop practical algorithms for solving the problem and test them on real data. Some examples are pre-processing techniques, approximation algorithms, heuristic models or mixed integer linear programming. In addition, you will study theoretical aspects concerning computational complexity.

Sometimes parameters can be specified by the user; sometimes they are degrees of freedom that can be determined by the algorithm itself. Some examples that you include in your studies are:

- Scale of the data;
- Size of map sheets;
- Direction of the map sheets, north facing: portrait or
Team

You will be working in the Specials Tooling team. This is a new team, a collaboration between the Specials team and the Tech team. It is part of the Geodata Services department. The Specials Tooling team has a permanent core of 4 colleagues from both teams. This team supports colleagues in the Specials team with customised tools and the maintenance and improvement of these tools. The Specials colleagues use these tools to solve customer problems. Sometimes in the form of subscription deliveries, but also one-off enquiries.
Together with the GEC (Geo Expertise Center) you will be guided by the Specials Tooling team. You will mostly work independently, but your colleagues will always be there when you need them.

Your Profile

You are pursuing a relevant degree at masters level, such as applied mathematics with a specialisation in discrete optimisation. Knowledge of and experience with Python is required. You are analytical, curious, enthusiastic and eager to develop. You will preferably be available for the internship from January or February 2022.

We will offer you

As an intern, you will not just play a supporting role, you will be fully integrated into the team. You will get the chance to develop yourself and we will offer you a fun and educational experience! Your practice supervisor will regularly make time to discuss the progress of your assignment(s). In addition, you will receive a laptop on loan and a monthly internship fee of € 565,- (o.b.v.. 36 hours per week). Nowadays, we work on a hybrid basis meaning working from home is combined with working in the office. You will be based at our Zwolle office.
Applying

Are you interested in this assignment? Then apply immediately via the button below! We would like to get in touch with you to discuss the internship possibilities.