INTERN OPPORTUNITES – HERE Technology, CTO Research Team
Location: Eindhoven Kennedy Tower
Duration: 4-6 months (can be extended to a thesis)

Job description
Are you looking for a challenging Internship that offers you a valuable learning experience in one of the fastest growing and most exciting industries of today? Are you looking for a company that offers you the opportunity to be part of a dynamic and international team and values your own initiatives and ideas? If you have affinity with technology, location based services, data analysis and you have a hands-on mentality then an internship at HERE might be something for you!

HERE Technology offers the opportunity for an intern to experience and participate in the day-to-day activities of the CTO Research team. We have four internship positions available for highly skilled students, enrolled in a Masters program.

Who we are
HERE is a leader in mapping and location technology. We enable rich, real-time location applications and experiences for consumers, vehicles, enterprises and cities. Our open location platform is accessible to all customers who seek to leverage the power of location in their businesses. We are backed by a consortium of leading automotive companies (Audi AG, BMW Group and Daimler AG). To learn more about HERE, including our work in connected and autonomous driving, visit http://360.here.com

What you’ll be doing – one of the following areas

Data Science: Extract meaningful insights from a wide variety of data sources including geospatial, temporal, and streaming using machine learning, probabilistic modeling, and statistics techniques.

Big Data Platform: Work with high performance computing, edge computing and real-time streaming of high volumes of data.

NLP Research: Text mining, semantic understanding, and machine learning on a variety of textual data with high variance in quality and complexity.

Computer Science: Design and develop algorithms in the areas of graph theory, optimization, numerical analysis, and other computer science topics.

Artificial Intelligence: Areas related to Artificial Intelligence including deep learning, knowledge extraction, modeling, and representation.

What you’ll need to bring to the job

• You are working towards a Master’s degree
• You have knowledge of / have demonstrable experience in one of the following: Artificial Intelligence, Big Data, Computer Science, Data Science, Natural Language Processing
• You are comfortable working in a technology environment
• You have developed analytical, organizational and multi-tasking ability
• You have developed written and oral communication skills
• You have the ability to effectively function in a multidisciplinary team environment
• You have fluent English

What we offer
HERE has all the ingredients that make for a vibrant place to start your career. From day one, you will be immersed in a culture of cutting-edge technology where your ideas will be encouraged and embraced. After all, it is new ideas, new ways of thinking, and new approaches to solving real-world problems that enable us to constantly push the boundaries of digital map-making. At HERE, we guarantee you an opportunity to expand your knowledge and develop your skills.

Are you interested? Please contact Dip Goswami (d.goswami@tue.nl) at TU/e or you may also copy to eimear.seijkens-mcgee@here.com at HERE with a CV
Description of Projects:

1) **Sparse 3D Convolutions**

Summarizing 3D pointclouds over regular neighborhoods is a key component for directly applying machine learning and recognition to pointclouds. Sampling on a regular grid and taking advantage of spatial sparsity and can greatly speed up this process.

The goals of this project are:
- Identify efficient sparse data structures to apply arbitrary functions (min, max, sum, dot product) over all neighborhoods of a 3D pointcloud.
- Develop code to implement these data structures.
- Perform a thorough review of the relevant existing literature.

2) **Add details to coarse mesh**

Map-making requires stitching heterogeneous data sources with varying levels of detail. One important example is the fusion of coarse meshes from aerial imagery with higher detailed mesh from LiDAR.

Given a collection of pre-aligned meshes at varying levels of detail, the goals of this project are:
- Identify an efficient process to add higher-level detail to a low-resolution mesh when available, identify and resolve inconsistencies when necessary.
- Develop code to implement this mesh conflation procedure.
- Perform a thorough review of the relevant existing literature.