PROJECT TITLE
Assessment of the road network data quality of the OpenStreetMap geographic database for South Africa

NAME OF THE COMPANY
Growth and Intelligence Network CC (“GAIN”)

BACKGROUND ABOUT THE COMPANY
GAIN is a contract research company specialising in the study of freight demand forecasting, strategic facilitation, policy formulation and people development in the supply chain and logistics sector. A group of engineers, logisticians and transport economists develop models and conduct research to address the strategic planning needs of institutions like Transnet SOC Ltd., provincial and municipal governments and research forums in South Africa and abroad.

PROJECT SCOPE
OpenStreetMap (OSM) is a database of Volunteered Geographic Information (VGI) started in the UK in 2004 by Steve Coast. As an open-source database, the potential to use OSM in research and modelling in the transport sector is immense. However, due to the voluntary nature of the data contribution there are no up-front guarantees of the fitness-for-use of the data. This project will conduct a systematic assessment of the data quality of the South African street network captured in OpenStreetMap. The following specific tasks are envisaged:

1. Defining quality criteria for VGI for South African transport-related research
2. Designing appropriate procedures for testing data quality
3. Implementing procedures to test data quality
4. Conducting statistical analysis of results
5. Making recommendations regarding the fitness-for-use of the OSM database for South African transport-related research

During the course of this project students will be exposed to, and in some cases be required to master, the following software/programming languages:

- JAVA
- OpenStreetMap editors such as JOSM
- R – an open-source statistical analysis software

The following academic articles give a background of the concept and examples of similar studies:

MENTORSHIP

Nadia Viljoen is a GAIN employee currently pursuing her PhD under the guidance of Prof. Johan Joubert at the University of Pretoria. This project is related to her ongoing research. As such, strong guidance will be provided by Ms. Viljoen in the completion of this project.

PROJECT APPLICATION PROCESS AND CONTACT DETAILS

GENERAL APPLICATION

- Application deadline: 6 February 2014
- Interviews scheduled: 9 - 12 February 2015
- Feedback given: 13 February 2015

What to include in the application letter:

1. Motivation for applying for this project (300 – 500 words)
2. Brief descriptions of previous internship projects
3. Brief descriptions of 3rd year semester projects

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