

Name + Surname

André Hauptfleisch

Job Designation

Student Researcher

Qualifications

B. Sc. Computer Science (2002) – University of Pretoria

B. Com. (Hons) Informatics (2003) – University of Pretoria

Employment history

2004-2005: Chillisauce Ltd. (London, UK) – Web Application Developer

2006-Present: Meraka Institute (Pretoria, South Africa) – Student Researcher

Time with CSIR

1 Year

Brief biography - paragraph of free text

Andre Hauptfleisch started his academic career in 1999 with a B. Sc. Computer Science degree at the University of Pretoria. After completing his B. Com. Honours degree in Informatics, he travelled to the United Kingdom where he worked as Web Developer for two years. Upon returning to South Africa in 2006, Andre enrolled for a M. Sc. in Computer Science and accepted a studentship position at the Meraka Institute.

Key interest areas

Computer Vision, Computational Intelligence, Remote Sensing, Web Technologies

Current Research

Automated Road Network Extraction from High Resolution Satellite Imagery

Road networks play an important role in a number of geospatial applications, such as cartographic, infrastructure planning and traffic routing software. Automatic and semi-automatic road network extraction techniques have significantly increased the extraction rate of road networks. Automated processes do still yield some erroneous and incomplete results. Costly human intervention is, therefore, still required to evaluate results and correct errors.

A number of studies have managed to increase extraction accuracy with a hybrid of extraction algorithms, where different algorithms are used within certain global contexts (urban, suburban or rural). However, no study has presented a thorough comparison of the performances of these algorithms within different contexts.

The study conducts a comparative study to determine the accuracy of a number of current low-level road extraction algorithms, within different contexts. From the insight gained from the comparative study, a new algorithm was developed.

Outputs summary

Conference Publications:

Andries C. Hauptfleisch, Frans van den Bergh, Asheer K. Bachoo, and Andries P. Engelbrecht, "A Comparison of Canny and V1 Neural Network Based Edge Detectors Applied to Road Extraction," in *Proceedings of the PRASA Conference*, 2006.

Awards + recognition

June 2006 – Meraka Institute, Student of the year