GRACE Science School

Matlab and its Applications in Geoinformatics & Computational Intelligence

Date: 7. May- 9. May 2018
Time: 9.30 am -1.00 pm
Location: Building **20.40**, GIK PC-Pool (Room 039)
Lecturer: Prof. Dr. Mulhim al Doori (AUD, Dubai)
Credits: 1

Contents

MATLAB provides an interactive environment for numerical computation, visualization, and programming. This fourth generation programming language comprises of built-in math functions and tool boxes which enable the user to explore multiple approaches and reach a solution with relative ease in comparison to other programming languages. It enables the user to analyze data, develop algorithms and create models and applications. MATLAB can be used for a range of applications, including signal processing and communications, image and video processing, control systems, test and measurement, computational finance and geodesy. More than a million engineers and scientists in industry and academia use MATLAB, the language of technical computing.

Course topics

Session 1 - Introduction

- Analysis and Visualisation with Vectors and Matrices
- Debugging, Functions and Problem Solving
- Logical Operators, Conditional Statements and Loops
- Strings and Files

Session 2 – Matlab in Geoinformatics

- Digital Image Processing and Graphics Tools
- Geoinformatics Tools
- Geographic Data Import & Export
- 2D & 3D Map Displays
- Mapping Toolbox

Session 3 - Machine Learning in Matlab

- Classification and regression
- Artificial Neural Networks Tool
- Fuzzy Logic tools
- Genetic Algorithms Tools

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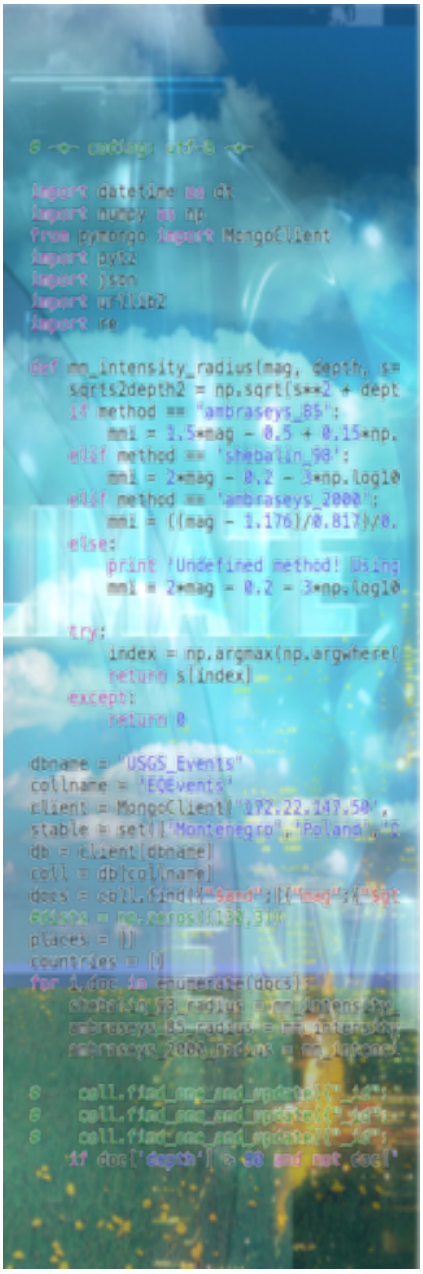

About the Lecturer

Prof. Al Doori's personal and collaborative research mainly centers round developing and applying novel cognitive, computational intelligence and machine learning techniques to a range of complex real-world and multi-model application areas. More generally, he is interested in novel interdisciplinary research for mathematical modeling, analysis and control of complex systems — both in theory and applications.

Registration

Please register via online form.

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