UNIVERSITÄT SIEGEN

UNIVERSITÄT SIEGEN ● Fakultät IV / WBS ● 57068 Siegen

Fakultät IV
**Institut für Wissensbasierte Systeme
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Master Thesis

Institute of Knowledge Based Systems and Knowledge Management invites competent students who are interested to work on their master thesis in the following topic:

Optimising University Progression Pathways for Graduation and Employment

Background: Universities are increasingly offering flexible study arrangements, permitting part-time study, and off-campus online study options. Furthermore, some students due to external environmental events will cease study temporarily and then re-evaluate if to resume or discontinue. In cases of academic failure, students may be required to re-attempt a unit of study to move to progression. This means that there is a large number of pathways to graduation and employment, and some pathways which may not provide optimal outcomes for students. This means that progression pathways, rather than being a simple linear process, are a complex network of possible decisions.
The European funded project **EDUWORKS** is to investigate the labour market matching process. Linking university progression pathways to employment outcomes is an important step in understanding the complex relationship between educational outcomes and labour market dynamics.

Tasks: The main task is to develop **prototype software** that can map university progression pathways. This will rely heavily on graph theory, where the software should be capable of making a complete multi digraph (quiver) of the university course, including all possible nodes and edges that accurately capture all the possible pathways a student has at any point in time.

Requirements: Studies in Computer Sciences, Business Information Systems, Mathematics or related disciplines and a willingness to learn and practice Database and Software Engineering.

Language: English

Start Date: As soon as possible

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