Precise Machine Translation of Computer Science Study Material

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Abstract:
Higher education in South Africa is, amongst others, characterised by student language diversity while the language of teaching and learning is mainly English. The University of South Africa has a language policy that is based on the notion of functional multilingualism, the implementation of which would benefit from software that provides fast, low-cost and easily accessible solutions to translating key concepts found in study material. We present a prototype translation system in the form of a mobile (Android) application for translating discrete mathematics definitions between English and Afrikaans. The main component of the system is a Grammatical Framework (GF) application grammar which produces syntactically and semantically accurate translations in a high precision domain. The extension of the system to other South African languages is outlined.