ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

INVITATION TO THE PRESENTATION ABOUT THE WORK-PLACEMENT

Computer aided verification of existing P-NP proof attempts

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Chaired by Stefan Rass | Department of Mathematics

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https://classroom.aau.at/math-stat

ABSTRACT

My work placement took place at the University of Klagenfurt. The project is about the automated verification of mathematical proofs in the Isabelle/HOL language. In software engineering, it is common practice to implement algorithms to test them under working conditions and thereby identify special cases of inputs causing faults or program errors. When proving a theorem, a likewise ”practical validation” is not trivially possible, but languages like Isabelle/HOL provide means to ”formalize” a proof as a flow/sequence of logical arguments, whose validity can be checked by a computer. The project aims for the formal verification of selected algorithms in the context of NP-hard or NP-complete problems, so as to identify flaws in arguments and help the systematic detection of gaps, implicit assumptions or other errors in a mathematical proof. The project’s results shall serve as a guideline and a ”how to” for researchers trying to prove theorems and find algorithms to tackle problems in the NP complexity class.

We hope to see you there!

