FORSCHUNGSPROJEKT

“Mit KI alten Code modernisieren”

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Elitestudiengang “Software Engineering”

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AI-Assisted Translation of Old Code

Phillip Entin studied in the Elite Graduate Program “Software Engineering” at the University of Augsburg, the Technical University of Munich, and Ludwig Maximilian University of Munich. In his research, he explored how artificial intelligence can modernize legacy software systems by translating COBOL programs into modern programming languages.

The Hieroglyphs of Today’s IT Infrastructure

Did you know that more than 3 trillion US dollars in global trade are still processed by programs written in a language from the 1960s? This language, called COBOL, is still used in banks, insurance companies, and public administration. But as time goes on, fewer people are able to maintain this old code. Translating it into modern languages helps keep these critical systems running safely and efficiently.

Phillip Entin uses AI systems such as ChatGPT to support this translation process. His method automatically checks whether the translated programs behave the same way as the original COBOL code, ensuring that nothing important is lost along the way

Using ChatGPT to Translate COBOL

COBOL code looks and behaves very differently from the programming languages used today. To make sure the translations are accurate, Phillip Entin’s tool automatically creates small test examples that show how the old program reacts to different inputs. The AI uses these examples to improve the translation step by step. When the AI still makes mistakes, his system looks for the smallest possible example that causes the error and feeds it back to the AI. This helps the model understand and correct the problem more easily. The result is modern, readable code that keeps the functionality of the original program — a key step toward renewing the digital foundations of banks and public institutions.

Mehr zum Elitestudiengang:

Elitenetzwerk: Elitestudiengänge

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