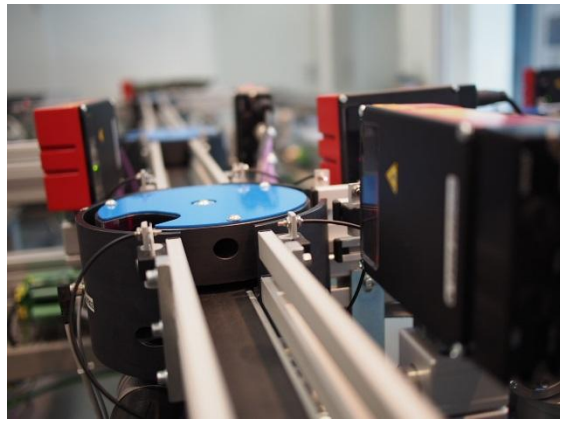

Complexity Measurement for Software Quality Assessment (SA/MA) – with Industry Partner

Lehrstuhl für Automatisierung und Informationssysteme
Technische Universität München
Prof. Dr.-Ing. Birgit Vogel-Heuser

Task Description:

Software developers in machine and plant manufacturing utilize metrics to gain valuable insights into the complexity and thus quality of their code. Complexity in automation software is driven by the technical process, which the software is tasked to control and its hardware and software constraints. Currently, none of the standard metrics used in automation is taking the underlying process into account, since the metrics calculation solely relies on statically analyzing a given piece of code. Therefore, in certain software parts, discrepancies between the developer's experienced judgement and the metrics value emerge.

Source: SIG Homepage

With the help of the experts at our industry partner **SIG** you will:

- Analyze the factors that render different technical processes complex to control
- Develop a metric that accurately grasps a technical process' complexity
- Relate the complexity of the process to the complexity of the software

If you are interested or have any questions, please refer to the E-mail address below.

Preliminaries:

- Knowledge about automation, data analysis and systems theory
- PLC-programming (IEC61131) expertise can be helpful
- Fluent in German
- Independent and self-reliant work ethic

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