[Master thesis] How much AI-based coding approach is disruptive?

Context: Developing quality software is not easy while maintaining multiple design principles. Human-based coding style is based on problem decomposition via the algorithms and augments it based on multiple iterations. The AI-based approach is to find the optimized solution based on the problem space, where the problem space must have proper labeling. Compare to humans it is computing-intensive, while for human it is time-intensive. Now, GitHub Copilot aims to reduce developer coding hours by offering suggestions (for methods, and unit tests) during code writing. AI-assisted code is having low turnaround time for projects. We cannot stop the invasion of AI support into the coding ecosystem to follow design less, and optimize more. This thesis aims to look deep into some of the related topics of the software developments process and figure out how such AI-tools improve the code quality (or not)? Students may refer to the listed below paper [1] and paper [2] for basic understanding.

Required Knowledge: Good knowledge of machine learning models, software engineering and strong programming skills.

Required Programming language: Java or Python (advance level)

Required Tools: GitHub, popular IDEs (such as Visual Studio Code) and relevant programming tools.

Stipend: NO

Duration: 6 months

Expected outcome: Master thesis (only last semester master degree student should apply)

Supervision: 1 hr/week for 6 months

Supervision Mode: Physical/Remote

Contact: If you are interested then send your CV (max 2 pages) to Assistant Professor Somnath Mazumdar (sma.digi@cbs.dk), Department of Digitalization, Copenhagen Business School.

Reference: