

14 DEVELOPMENT-OPERATIONS CYCLE FOR AI

PJD's opening remarks

For half a century software developers and engineers have been working to improve the methods of designing, building, and delivering software. The biggest challenge has always been software systems developed by multiple persons serving multiple users over multiple versions.

The earliest formal methodology for software was called “waterfall” because it consisted of the stages requirements, specifications, construction, and testing flowing one into the next. This method never worked very well because users frequently discovered they had not articulated all the requirements. It was expensive and slow to go back and redo the stages using the updated requirements.

Developers came up with better methods that put customers on to the teams to reduce the chances that important requirements would be missed. These methods came to be called human-centered rather than requirements-centered. Some of them were called “agile” because they allowed the team to quickly adapt to changed requirements and produce good software faster.

In recent years, this process has been perfected and given the name DevOps, for development-operations. It is depicted as a constantly cycling loop linking developers and operators (users) to improve speed of adaptability, delivery, reliability, and scale.

The DevOps process has been adapted for AI software, which is not conventional software because machine learning is used to implement some functions rather than traditional programming.

Today Professor Mathias Kölsch will discuss how DevOps works with AI software development and delivery.