Learning Human-Written Commit Messages to Document Code Changes

Research Objectives

- Commit messages are important complementary information in understanding code changes.

- Many commits in different projects still lack messages.

- A number of work focus on automatically generating commit message.

Research Method

- This paper proposes ChangeDoc, an approach to reuse existing messages in version control systems for commit message generation.

- For a commit, ChangeDoc recommends the messages of the similar commits to it.

Research Results

- The results show that 21.5% of the recommended messages by ChangeDoc can be directly used, 62.8% require minor modifications.

- The recommended messages contain important intent information that is not included in the messages generated by other tools.

Research Conclusions

- The results show that by reusing the commit messages, it is possible to recommend messages to describe current change.