

Script for 90-second talk  
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To produce a good piece of article, rewriting is important. To have a high-quality and long-lasting computer program, we need refactoring to keep programs clean and updated, because obsolete programs are typically unusable. However, program refactoring is difficult, because hundreds of components are intertwined with each other and moving one piece can easily break the entire program. To make refactoring less error-prone, I developed a method that automates the process of software refactoring and specifically I focus on dealing with refactoring Application Programming Interface call sequences, or API call sequences. First, I translate the input API calls into a set of individual API calls defined in the domain specified by the user using a statistical model called word2vec model, and then I put the translated API calls together and generate multiple complete candidate API call sequences using an API call sequence synthesizer. I applied my method on various refactoring tasks and most of the time I was able to achieve high accuracy. Given this result, I believe that my method can save most programmers' time, especially for those who needs to refactor many programs.