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**Title:** Making GUI Automation Accessible using Computer Vision

**Abstract:** Most people dislike manual and repetitive tasks and like to automate them if the right tool is available. For GUI automation, the right tool does not always exist. Some require programming and are inaccessible for end-users who have little knowledge about programming. Some require interacting with a GUI¹s internal structure and are unable to deal with proprietary and legacy applications whose internal structure is inaccessible. To make automation accessible, we need to find a new modality that is commonly available in all GUI applications and easily understood by end-users. One such modality I have tried with great success is vision. In this talk, I will introduce computational techniques that use images of GUI applications as first-class objects to allow end-users to automate any GUI application they see on a computer screen. I will present Sikuli, software I created that has enabled tens of thousands of users to automate repetitive tasks they were unable to automate before. I will show many real uses of Sikuli such as automating daily disk cleanup, automating a complex sign-up process, automating Facebook status updates, automating dialing on an Android phone, and automating Angry Birds. I will illustrate the real benefit of automation with case studies such as the one about a software project that uses Sikuli to automate 400+ previously manual tests, doubling the software¹s release rate. I will discuss lessons learned from Sikuli's user community and new research problems it has inspired. Finally, I will outline key challenges for future research to make automation accessible for the entire lifecycle of software including design, development, testing, use, and support.