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**Yazdan Movahedi** and **Ilir Gashi**. *Cluster-based Vulnerability Assessment: Some Empirical Studies*.

It is critical for organizations to optimize their security resources allocations. Several of these resources are directly linked to software vulnerabilities. A method of accurately estimating the number of vulnerabilities in a given system is thus needed. This research focuses on the estimation of the number of vulnerabilities over a given period of time in a given product/system. In particular, we introduce a new approach that consists of clustering vulnerabilities by leveraging the text information within vulnerability records, and then simulating the mean value function of vulnerabilities by relaxing the monotonic intensity function assumption, which is often used in the studies that use software reliability models (SRMs) and nonhomogeneous Poisson process in modeling. This presentation will compare results obtained from our clustering approach versus results without applying clustering. In particular, we will apply these approaches to vulnerabilities of operating systems and web browsers. (Received September 25, 2018)