

Tutorial 1

Tutorial: Spam and Denial of Information Attacks and Defenses

Calton Pu

School of Computer Science
Georgia Institute of Technology

Spam is a significant information security threat that has affected many email and web users. We will outline the impact of spam in several communications media, including email, web, phishing, and social networks. Further, we use spam as an illustrative instance of the general class of denial of information (DOI) attacks, which can be seen as the information analog of denial of service (DoS) attacks. Examples of significant research challenges in DOI attacks include: camouflage and randomization attacks, adversarial (adaptive) classification, evolution of spam production and delivery. We will discuss research results in DOI defense techniques that successfully address some of these challenges, e.g., in the resistance to adversarial adaptation such as camouflage and randomization attacks. The tutorial concludes with a discussion on current opportunities and challenges in spam and DOI research.

About the speaker

Calton Pu received his PhD from University of Washington in 1986. He has taught as Columbia University and Oregon Graduate Institute, currently holding the position of Professor and John P. Imlay, Jr. Chair in Software in the School of Computer Science, Georgia Institute of Technology. He has published more than 250 papers in journals, book chapters, conference proceedings, and refereed workshops in several system-related areas, including operating systems, transaction processing, systems reliability, security, and Internet data management. He is working on spam and denial of information (with several academic and industry partners), service computing (with IBM Research), and automated system management (with HP Labs). He has served on more than 100 program committees for more than 50 international conferences and workshops, including PC co-chair of SRDS, ICDE, CoopIs, DOA, and general co-chair for CIKM, ICDE, CEAS, and SCC.

Research Collaborators and Tutorial Contributors: **Mr. Steve Webb**, **Mr. Byungki Byun**, and **Prof. Chin-Hui Lee** of Georgia Tech, **Prof. Kang Li** and **Prof. Lakshminish Ramaswamy** of University of Georgia, **Prof. James Caverlee** of Texas A&M University.