

Randolph C. Baden

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Education

Ph.D. Computer Science, University of Maryland, 2011 (Expected)

M.A. Computer Science, University of Maryland, 2008

B.S. Computer Science, University of Maryland, 2005, *Cum Laude*

B.S. Mathematics, University of Maryland, 2005, *Cum Laude*

Publications

“Persona: An Online Social Network with User-Defined Privacy,”
Randy Baden, Adam Bender, Neil Spring, Bobby Bhattacharjee, Daniel Starin (SIGCOMM 2009).

“PeerWise Overlay Networks,”
Cristian Lumezanu, Randy Baden, Dave Levin, Neil Spring, Bobby Bhattacharjee (NSDI 2009).

“Triangle Inequality and Routing Policy Violations in the Internet,”
Cristian Lumezanu, Randy Baden, Neil Spring, Bobby Bhattacharjee (PAM 2009).

“Motivating Participation in Internet Routing Overlays,”
Dave Levin, Randolph Baden, Cristian Lumezanu, Neil Spring,
Bobby Bhattacharjee (NETECON 2008).

“IP Geolocation in Metropolitan Area Networks”
Randolph Baden (Master’s Degree Scholarly Paper, 2008).

Research Experience

Research Assistant 2005–2006
Michael Pack UMD and CATT Laboratory
Development of software for reporting and recording automobile accidents and incidents within the DC metropolitan area.

Research Assistant 2006–Present
Mark Shayman, Richard La, and Bobby UMD and LTS
Bhattacharjee
Development of new techniques and analysis of existing techniques for Internet host geolocation in Metropolitan Area Networks.

Research Assistant 2006–2007
Bobby Bhattacharjee UMD
Design and implementation of a secure distributed hash table resilient to attacks or failures from a predetermined number of distinct, globally identifiable classes of participants.

Research Assistant 2007
Bobby Bhattacharjee and Neil Spring UMD
Study of the desired system properties of a post-modern Internet architecture, including the mechanisms to achieve such properties.

Research Assistant 2007–Present
Bobby Bhattacharjee and Kobus van der Merwe UMD and AT&T
Implementation of a simple cooperative online game and analysis of a hybrid peer-to-peer and client-server architecture for online games.

Research Assistant 2008
Bobby Bhattacharjee and Neil Spring UMD
Design and development of PeerWise, an Internet routing overlay which exploits triangle inequality violations in Internet latencies and the presence of mutual advantage among participating nodes to achieve lower latencies to a set of destinations.

Research Assistant 2008
Bobby Bhattacharjee and Neil Spring UMD
Development of a distributed online social network using flexible, lightweight chits as a new security primitive.

Research Assistant 2008–Present
Bobby Bhattacharjee and Neil Spring UMD
Design of Persona, a distributed online social network that uses a combination of attribute-based encryption, public key encryption, and symmetric encryption to provide fast, flexible, and cryptographically secure user-defined privacy policies.

Research Assistant 2008–Present
Bobby Bhattacharjee and Neil Spring UMD
Design and user-study driven evaluation of XSD, a mechanism for bootstrapping a PKI in online social networks using exclusive shared secrets that users have established out-of-band.