

Joseph Foley

Mechanical, Manufacturing and Security Designer...

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Education

- 1994-1998 **Bachelor of Science in Computer Science and Electrical Engineering**, *Massachusetts Institute of Technology.*
- 1998-1999 **Master of Engineering in Computer Science and Electrical Engineering**, *Massachusetts Institute of Technology.*
- 2000-2006 **Doctor of Philosophy in Mechanical Engineering**, *Massachusetts Institute of Technology.*

Doctor of Philosophy Dissertation

- title *Security Approaches for Radio Frequency Identification Systems*
- supervisor Professor Sanjay Sarma
- description Describes preventative measures and protection from the privacy invasion potential associated with ubiquitous Radio Frequency Identification (RFID).

Master Thesis

- title *An Infrastructure for Electromechanical Appliances on the Internet*
- supervisor Professor Sanjay Sarma
- description Design and implementation of an Radio Frequency Identification(RFID) and internet enabled appliance. The design focused on general methods applicable to a wide variety of intelligent devices.

Manufacturing Works

- 2001 **The Networked Physical World: An Automated Identification Architecture**, *D. Engels, J. Foley, J. Waldrop, S. Sarma, D. Brock, WIAPP '01.*
- 2000 **System Analysis and Design of the Insight M3/M5 Tactical Illuminator**, *Vince E. Carballo, Miguels A. Chavez, Joe Foley..*
- 1998 **Cambridge Heart**, *Joe Foley, Marc Lebovitz, Ranjini Srikantiah, Victor Su.*
- 1998 **Low-Cost Pine Car Derby Timing System**, *Joe Foley, Advisor: Professor Alex Slocum.*

Design Works

- 2001 **Wireless Friends: Company Business Plan**, *Sofy Tarud, Joe Foley, Oscar Lopez, Omri Pedatzur.*
- 2001 **Automotive Diagnosis Assistant**, *Joe Foley, Ariel Segall.*

- 1999 **Kraken: Distributed Cooperative Web Caching**, *Joe Foley, Amy Vandiver, Ben Vandiver.*
- 1998 **Evolved PacMan: Genetic Algorithm for Design of Control Systems**, *Joe Foley & Mike Phillips.*
- 1996 **An Ad-Hoc FPGA - Xilinx Type**, *Joe Foley & Mark Roh.*
- 1996 **A Partly Read-Only, Portable Web Site**, *Joe Foley.*

Security Works

- 2006 **ONS Deployment and Visibility Challenges**, *Dan Engles and Joe Foley.*
- 2004 **Flingetty: Secure Multiparty Computation for a Dating Match-Up System**, *Natan Cliffer, Joe Foley, Hongyihu.*
- 2003 **KLite: A RFID Tag Anti-Counterfeit System**, *Joe Foley.*
- 2003 **EPC Reductionism**, *Joe Foley.*
- 1996 **WhoRU: Anonymous Encrypted Remailer**, *Daniel Derksen, Joe Foley, Matthew Rimer.*

Experience

- November
2007-Current

Senior Mechanical Engineer/Tech Lead, *iRobot Government & Industrial Research*, Bedford, MA.
 Designing new robotics concepts and mechanisms in the DARPA ChemBots program and iRobot R & D.
- November
2006-November
2007

PostDoctoral Research Associate: Energy Efficiency in Manufacturing, *MIT*, Cambridge, MA.
 Investigated energy usage in the manufacturing industries and created wind turbine reliability simulator.
- September
2005-January
2006

Teaching Assistant for CSCI-E-170: Computer Security and Privacy, *Harvard Extension School*, Cambridge, MA.
 Lectured and graded material.
- May 2000 -
September 2000

Software Developer and Network Administrator, *Emode, Inc.*, Cambridge, MA.
 Developed world's largest fully-indexed quote database. Developed and installed network security policies and equipment
- May 1997 -
September 1997

Mechanical Design Engineer, *Brute Force Games*, Cambridge, MA.
 full immersion game simulator platform leveraging vection research.

Designed
- September 1996
- September
1999

Network Operations Employee, *MIT*, Cambridge, MA.
 Security operations and emergency paging system development.

Computer skills

OS	Linux, Unix, Windows	administration	Apache, Mailman
programming	JAVA, C/C++	scripting	PHP, Shell
scientific	Matlab, Maple, ProEngineer, Solid-Works	typography	L ^A T _E X, PostScript