Joe Loughry

Software Development for Cross Domain Systems, Pen Testing, C&A, Information Security

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- Postgraduate Research Student, University of Oxford, January 2012–present.

  New methods for cutting cost and boosting efficiency of security testing. Cross domain system C&A in IC and collateral environments. Thesis: *Security Test and Evaluation of Cross Domain Systems*. U.S. citizen, cleared to Top Secret/SCI with counterintelligence polygraph. Current experience with DIACAP, DCID 6/3 and Common Criteria. CISSP and ISSEP satisfy DoD 8570.01 IAT and IAM Level III and IASAE Level III.

- Information Assurance Engineer, Lockheed Martin Corporation, 2006–January 2012.

  Proposed and won $968,000 Air Force Research Laboratory contract for probabilistic redaction system; this R&D project was completed on time and within budget. Security Target (ST) author for Common Criteria (CC) evaluation of Radiant Mercury.

- Senior Software Engineer, Lockheed Martin Missiles & Space, February 1998–2006.

  Invented embedded digital signatures for imagery—patent application filed. Discovered the optical TEMPEST effect and countermeasures for same—U.S. patent no. 6,987,461. Staff software developer, security engineer, and security architect on Radiant Mercury. Expertise with C, C++, X11, XML, HTML, SSH, UNIX, Solaris and Trusted Solaris.

- System Administrator, Wells Fargo & Company, Seattle, 1996–1997.

  Migrated statewide network from Token Ring to Ethernet using thin client X terminals, Cisco routers, IOS configuration, structured cabling, and frame relay WAN installation.

- Programmer, Safeco Life Insurance Company, Redmond, Washington, 1991.

  Database applications programmer, report design, and business systems analyst.

- Programmer/Analyst II, First Interstate Bank of Washington, Seattle, 1990–1996.

  Designed and developed a high-level language interpreter that improved programming team productivity on a machine language application used with IBM mainframes.

Patents

- 6,987,461 *A System and Method for Addressing Optical Emanations from an Information Processing Device*, issued 17th January 2006.

- U.S. and international application 13/355,210 *Nested Digital Signatures with Constant File Size*, filed 20th January 2012.

Proposal Wins and Funding

- Awarded $968,412.00 for 'Probabilistic Redaction', USAF Rome Labs contract number FA8750-09-C-0006, Principal Investigator (PI) for period of performance 2009–2012.

Security Clearance

- TS/SCI is current; last investigation date: 5th August 2009 (SSBI PR); last CI poly 26th May 2010. CISSP number 10411.

Refereed Journal Publications

- 'Information Leakage from Optical Emanations' by J. Loughry and D.A. Umphress. *ACM Trans. Info. Sys. Security* **5**(3) pp. 262–289, 2002.

Published Security Advisories

- Sun Microsystems, Inc. security advisory (software): [title redacted] classified S//NF, 1999.

- Sun Microsystems, Inc. security advisory (hardware): [title redacted] classified S//NF, 1998.

- Sun Microsystems, Inc. security advisory (software): [title redacted] classified S//NF, 1998.

- Sun Microsystems, Inc. security advisory (software): [redacted] classified SI TK B, 1998.

Conference Publications

- 'Information Asymmetry in Classified Cross Domain System Accreditation'. *C&ESAR 2012*, Rennes, France, 20–22 November 2012, pp. 19–28, 2012.

- 'Unsteady Ground: Certification to Unstable Criteria'. *Second International Conference on Advances in System Testing and Validation Life Cycle*. Nice, France, 2010.

- 'Evaluation of Existing IT Systems Under the Common Criteria at Levels Above EAL4'. *Oxford University Computing Laboratory Student Conference*, Oxford, U.K., 2008.

- 'Use of XML in the Specification and Development of a New High Assurance Controlled Interface'. *Network Centric Warfare* conference, Washington, D.C., 2003.

- 'Optical Remote Interception of Networks (ORION)' *InfowarCon '02*, Washington, D.C., 2002.

- 'RADIANT MERCURY'. *Cross Domain Solutions Organization*. Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland USA, 2001.

- 'Performance evaluation for line-drawing recognition systems' by Ihsin T. Phillips, Frank Chang, Kevin Chang, Bhavani Duggirala, Mike Logan, Joe Loughry, and Jisheng Liang. *Proc. SPIE '97 Document Imaging IV*. Vol. 3027, pp. 136–148, March 1997.

Other Published Reports

- 'Probabilistic Redaction' final technical report. Air Force Research Laboratory (AFRL), Rome, New York, 2012. Available from the Defense Technical Information Centre (DTIC), Washington, D.C.

- 'Subsets of an 8-element set in order by number of elements in each subset'. *On-line Encyclopedia of Integer Sequences*, AT&T Research, 2003.

- 'Efficiently enumerating the subsets of a set' by Loughry, von Hemert, and Schoofs (in preparation).

- RISKS *(ACM Forum on Risks to the Public in Computers and Related Systems)* vols 17.31, 21.94–5, 22.81, 24.07, 24.22–3, 24.55, 24.87, 25.73, and 26.46.

Open Source

- OpenSolaris: `http://www.opensolaris.org` (2006) *found a bug in password retry limit of Trusted Solaris 8.*

- The FreeBSD Project: `http://www.freebsd.org` (1999) *contributed a new console screen saver to FreeBSD 3.2.*

- Fetchmail: `http://fetchmail.berlios.de` (1998) *patch to handle multi-homed machines.*

Education

- Doctoral student, University of Oxford, Department of Computer Science. Thesis: *Security Test and Evaluation of Cross Domain Systems*, degree expected in mid 2013.

- Master of Software Engineering (M.S.E.), Seattle University.

- Bachelor of Arts (B.A.) in mathematics, University of Colorado at Boulder.

Teaching Experience

- University Instructor, CSSE 591 *Computer Networks*, Seattle University, Spring 1998.

Officerships and Committee Work

- April, 2012: Co-organiser of a public debate between Dr Aubrey de Grey and Prof. Colin Blakemore, chaired by Professor Sir Richard Peto, in the Sheldonian Theatre, Oxford.

- 2009–present: President of the Oxford Lyceum.

- 2009–present: IT Officer, Oxford University Scientific Society.

- Chair of the OXFORD-CS-2011 Conference Programme Committee.

- Member of the COMLAB-CS-2010 and COMLAB-CS-2009 Programme Committees.

- 2007–09: Treasurer of the Oxford Lyceum.

- Science fair judge for the Ricks Centre at the University of Denver, 2012.

Social Networking (lesser used social networks are greyed out)

- Google Scholar: `http://scholar.google.com/citations?hl=en&user=PX_U29EAAAAJ`

- GitHub: `https://github.com/jloughry`

- LinkedIn: `http://www.linkedin.com/in/jloughry`

- Twitter: `https://twitter.com/jloughry`

- Google+: `https://plus.google.com/u/0/115779672587479359864/`

- Facebook: `https://www.facebook.com/joe.loughry.oxford`

Affiliations

- ACM, IEEE, (ISC)^2, ISACA.

Some more keywords for the regexp to find

Certification and Accreditation (C&A) of cross domain systems, Assessment and Authorization (A&A) for classified environments, Certification Test and Evaluation (CT&E), Security Test and Evaluation (ST&E), penetration testing, DIACAP, Common Criteria, DCID 6/3, programming in C and assembly language with a strong interest in Lisp derived languages, Compartmented Mode Workstation (CMW) programming, UNIX, Trusted Solaris versions 2.5–8, software development, R&D, principal investigator, U.S. citizen with TS/SCI clearance, technical writing, CISSP-ISSEP for DoD 8570.01 IAT, IAM, and IASAE Level III compliance required for software development that crosses multiple enclaves, experience living overseas, programming, publications, patents, public speaking, funding, research, and teaching experience.