Ming Chow

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EDUCATION

Tufts University, Graduate School of Engineering **Medford, MA 02155**
Master of Science in Computer Science, 2004

Tufts University, School of Engineering **Medford, MA 02155**
Bachelor of Science in Computer Science, 2002, Cum Laude
Double-Majored in Computer Science and Mathematics

AREAS OF INTEREST

- Web and Mobile Development
- Web Security

TEACHING EXPERIENCE

Tufts University Department of Computer Science **Medford, MA 02155**
Lecturer (Present)

- Fall 2013, Spring 2013: *Software Engineering, Senior Capstone Project*
  - Course website available at http://www.cs.tufts.edu/comp/97/, http://www.cs.tufts.edu/comp/98/
- Fall 2009, Fall 2010, Spring 2011, Summer 2011, Spring 2013: *Web Programming*
  - Course website available at http://www.cs.tufts.edu/comp/20/
- Spring 2012, Spring 2013: *Music Apps on the iPad*
  - Course website available at http://www.cs.tufts.edu/comp/150ISW/
- Fall 2011, Summer 2012, Fall 2012: *Data Structures* (the second course in the introductory computer science major sequence)
  - Course website available at http://www.cs.tufts.edu/comp/15/
- Spring 2010, Spring 2011, Fall 2011: *Web Engineering*
  - Course website available at http://www.cs.tufts.edu/comp/120/
- Summer 2012: *Developing Computer & Interactive Media* (Precollege Course for High School Students)
  - Course website available at http://www.cs.tufts.edu/comp/10HS/
- Spring 2011, Spring 2012: *Introduction to Computer Security*
  - Course website available at http://www.cs.tufts.edu/comp/116/
- Spring 2008, Spring 2009, Summer 2009, Spring 2010, Summer 2010, Fall 2010, Spring 2012: *Introduction to Game Development*
  - Course website available at http://www.cs.tufts.edu/comp/50GD/
  - Named one of the nation's coolest engineering courses by the American Society for Engineering Education (ASEE) in 2011 (see http://www.prism-magazine.org/summer11/feature_01.cfm)
- Mentored Microsoft Imagine Cup Software Design Competition, 2012 US Finalist Team “Team Eos” (Jason Cheng, Wenshiang Chung, Gregory Wong, Xihan Zhang).
- Mentored Microsoft Imagine Cup Game Design Competition, 2010 US Finalist Team “Team AwesomeSauce” (Anit Das, Gilad Gray, Cobin Dopkeen, and Nadia Rodriguez).

Middlesex Community College **Lowell, MA 01852**
Instructor

- Spring 2008, Spring 2009: *Cyber Security*
  - Taught classroom-based sessions for Middlesex Community College, who received a grant from the University of Pittsburgh Medical Center (UPMC) to offer the course. The course was part of

the Community Preparedness Schoolhouse, which is a component of UPMC's Strategic Bio-Defense Emergency Operations and Communication System.
    - Lectured on the goals of cyber security, laws and regulations, threats, vulnerabilities, information resources, and cyber security policy.
    - Created basic demonstrations on password cracking, packet sniffing, scanning, and backdoors.

Tufts University Experimental College **Medford, MA 02155**
Lecturer

- Spring 2007: *Security, Privacy, and Politics in the Computer Age*
    - Created new lectures on software security, regulatory compliance, digital forensics, and data security.
    - Assigned two high-level security design projects.
    - Demonstrated a digital investigation of a compromised web server using a virtual machine and Windows Sysinternals.
    - Demonstrated vulnerable and insecure web applications written in PHP.

- Spring 2006: *Introduction to Game Development*
    - Lectured on various aspects of game development including: Java programming, 2D graphics, animation, user interaction, 3D graphics, modeling, game genres, and ethics in gaming.
    - Placed students in teams to develop complex 2D games with design documentation.

- Spring 2005: *Security, Privacy, and Politics in the Computer Age*
    - Lectured on computer security, privacy, and political issues including: open source and free software, malware, spam, rootkits, buffer overflow, intrusion detection, reverse engineering of software, wireless and location-based privacy, and Radio Frequency Identification (RFID) tags.
    - Assigned two debates and two expert panel sessions.
    - Hosted a colloquium entitled "Building Privacy-Aware Applications" with guest speaker JC Cannon from Microsoft for the Tufts Department of Computer Science.

PRESENTATIONS AND PUBLICATIONS

- *JavaScript Pitfalls*. SOURCE Conference Boston 2013, Marriott Tremont, Boston, MA, April 16, 2013.
- *Capture the Flags.* OWASP Boston Application Security Conference (BASC) 2012, Microsoft New England Research Development Center, Boston, MA, October 13, 2012.
- *Android Forensics*. InfoSec World Conference and Expo 2012, Disney's Contemporary Resort, Orlando, FL, April 3, 2012.
- *Abusing HTML5*. 2011 Intel Security Conference, Intel - Hillsboro, Hillsboro, OR, November 17, 2011.
- *The Perils of JavaScript APIs*. OWASP Boston Application Security Conference (BASC) 2011, Microsoft New England Research Development Center, Boston, MA, October 8, 2011.
- *Abusing HTML5*. DEF CON 19 Hacking Conference, The Rio All Suite Hotel and Casino, Las Vegas, NV, August 5 - 7, 2011.
- *Android Apps Development Boot Camp*. Design Automation Conference (DAC) 2011, San Diego Convention Center, San Diego, CA, June 6, 2011.
- *HTML5 Vulnerabilities and Precautions*. InfoSec World Conference and Expo 2011, Disney's Contemporary Resort, Orlando, FL, April 20, 2011.
- *HTML5 Security*. OWASP Boston Application Security Conference (BASC) 2010, Microsoft New England Research Development Center, Boston, MA, November 20, 2010.
- *Security Issues and Crime Pertaining to Online Games*. High Technology Crime Investigation Association - New England Chapter (HTCIA-NE), Boston, MA, September 9, 2010.
- *Investigations and Incident Response Using BackTrack*. High Technology Crime Investigation Association - New England Chapter (HTCIA-NE), Boston, MA, September 22, 2009.
- *Designing an Implementation-Based Game Development Course*. Game Education Summit, Carnegie Mellon University, Pittsburgh, PA, June 17, 2009.
- Ming Chow & Gary McGraw, editors. (2009) Securing Online Games, a special issue of *IEEE Security & Privacy*, Volume 7, Number 3, May/June 2009.

- *Internet Investigations 2.0: Privacy & New Technologies*. Greater Boston Chapter of the Association of Certified Fraud Examiners (ACFE), Boston, MA, September 19, 2008.
- *Use of the Internet in Fraud Investigations*
    - Massachusetts Office of the Attorney General, Boston, MA, September 18, 2009.
    - International Association of Law Enforcement Intelligence Analysts (IALEIA) - New England Chapter, Franklin, MA, October 3, 2008.
    - New England Association of Insurance Fraud Investigators (NEAIFI) 3rd Annual Training, Westford, MA, June 11, 2008.
    - John Hancock, Boston, MA, October 24, 2007.
    - Greater Boston Chapter of the Association of Certified Fraud Examiners (ACFE), Boston, MA, September 21, 2007.
- *Q&A Regarding Using the Internet for Investigations*. New England International Association of Special Investigation Units (NEIASIU), Westborough, MA, March 14, 2008.
- *Joint Educational Initiatives to Address Cybercrime Incident Response*. High Technology Crime Investigation Association - New England Chapter (HTCIA-NE), Boston, MA, August 9, 2007.
- *Google: The Search Engine and Its Tools*. New England Association of Insurance Fraud Investigators (NEAIFI) 2nd Annual Training, Westford, MA, June 13, 2007.
- "Teaching Computer Security, Privacy and Politics to the Masses," *;login: The Magazine of USENIX & Sage*, vol. 30, no. 6, pp. 62-63, December 2005.
- *What is Outstanding in Your Security and Compliance Practice?* Northeast Regional Computing Program (NERCOMP) Workshop: Achieving Optimal Security and Compliance in Higher Education, University of Massachusetts Amherst, November 14, 2005.

ADVISEES

- Alexander Levy, Spring 2008, Plan of Study Honors Thesis: *Video Game Graphics: A Synthesis of Visual Culture and Computer Technology*

PROFESSIONAL EXPERIENCE

Harvard University Department of Environmental Health & Safety (EH&S) Cambridge, MA 02139
Program Support Specialist, Spring 2004 - June 30, 2010

- Co-invented contractor assessment process, a cost-effective and efficient method to pre-qualify contractors and sub-contractors for safety performance. U.S. Patent Application No.12/271,128 filed on November 14, 2008, and granted IP to University. See http://www.techtransfer.harvard.edu/inventions/startupventures/examples/ for more details.
- Redeveloped the Harvard EH&S Training Management System and business process to better manage the training requirements for over 12,000 Harvard personnel. Led a team of two developers to develop the web application. Implemented training assessment form, training action plan, and employee management components.
- Designed and developed web application for tracking asbestos waste shipment records for construction projects at the University. System allows the University to track regulatory compliance dates and ensure all asbestos waste is disposed at Harvard approved disposal sites in an appropriate manner and timeframe.
- 2006 Harvard Heroes honoree: for leadership, teamwork, adaptability, and work that set new standards for performance at Harvard University.
- Spearheaded the redesign of the University Operations Services (UOS) service organization website that receives over 20,000 unique visitors per month. Redesigned UOS website was rolled-out in June 2008. See http://www.uos.harvard.edu/.
- Coordinated the migration of 45,000 Social Security Numbers to an alternative form of ID in the EH&S Radiation Protection Office's electronic recordkeeping system and in all Harvard accounts managed by vendor Landauer, Inc., in compliance with the Harvard University Enterprise Security Policy.
- Performed a risk analysis and mitigation strategy for the EH&S Radiation Protection Office's electronic recordkeeping system.
- Developed the Harvard EH&S Daytime and After-Hours On-Call web application to coordinate weekly

emergency responders for the EH&S department and the Harvard University Operations Center.

Harvard University Department of Environmental Health & Safety (EH&S) Cambridge, MA 02139
Information Technology Support Associate, Summer 2002 - Spring 2004

- Developed two web applications to manage over 2,000 confined spaces and facility equipments (e.g., boilers, generators) at the University for regulatory compliance.
- Developed an access control web application to manage over 400 users at the University for the web applications on the University Operations Services (UOS) service organization domain.
- Trained department staff members on the fundamentals of computer security and on emerging technologies.
- Awarded third place in the 2003 Campus Safety Health and Environmental Management Association (part of the National Safety Council) Home Page Contest.

Harvard University Department of Environmental Health & Safety (EH&S) Cambridge, MA 02139
Technology Support Intern, Spring 2000 - Summer 2002

- Developed the Hazardous Waste Online Pickup Request / Services application to manage hazardous waste pickup requests, supply requests, and technical assistance. Application is still in operation and over 200 requests are submitted per month from the laboratories at Harvard. Saved the department the cost of one full-time staff assistant.
- Developed the first homegrown web application in the department, the Hazardous Waste Labeling Reference Tool to mitigate the most cited hazardous waste violation of mislabeling hazardous waste containers. This tool is still in operation and receives over 200 queries a month.
- Maintained the department's website.

Tufts University Department of Electrical Engineering and Computer Science Medford, MA 02155
Teaching Assistant for Computer Science 15: Data Structures, Fall 1999 - Fall 2000, Fall 2002 - Spring 2003

- Assisted students in implementing large programming assignments in C++.
- Led review sessions for assignments and examinations.
- Graded assignments and examinations.

Lycos, Inc., Waltham, MA 02451
Summer Intern for the Lycos Quality Assurance Team, Summer 1999

- Ran automated test tools to scan for defects on the Lycos web site.
- Compared the website against competing sites on usability, layout and design, and consistency of information.
- Designed test plans for Lycos' gaming portal and safe search engine.

SKILLS

- Languages: C, C++, HTML5, Java, JavaScript, Objective-C, PHP, Perl, Python, and Ruby
- Databases: MongoDB, MySQL, Oracle, SQLite
- Technologies: Ajax, Android SDK, Apache Struts, Cascading Style Sheets (CSS), Git, Google Maps API, Google App Engine, Google Web Toolkit, Heroku, iOS SDK, JavaServer Pages (JSP), jQuery, JavaScript Object Notation (JSON), Ruby on Rails, Subversion, Twitter API, XML