

EXHIBIT A

Curriculum Vitae

July 3, 2016

ALAN THEODORE SHERMAN

Personal Data

Date of birth: February 26, 1957

Place of birth: Cambridge, Massachusetts

Citizenship: USA

Marital status: married, children born 1996 and 2003

Research Areas

Security of voting systems, cryptology, information assurance, discrete algorithms, cybersecurity education.

Education

Ph.D.	Feb. 1987	MIT, computer science
S.M.	June 1981	MIT, electrical engineering and computer science
Sc.B.	June 1978	Brown University, mathematics, <i>magna cum laude</i>
H.S. Diploma	June 1974	Lafayette High School, <i>salutatorian</i> , Williamsburg, Va.

Experience in Higher Education

July 2014–present. University of Maryland, Baltimore County (UMBC), Baltimore, Maryland. Professor of Computer Science (with tenure), Department of Computer Science and Electrical Engineering.

July 1995–June 2014. University of Maryland, Baltimore County (UMBC), Baltimore, Maryland. Associate Professor of Computer Science (with tenure), Department of Computer Science and Electrical Engineering.

August 1989–July 1995. University of Maryland, Baltimore County (UMBC), Baltimore, Maryland. Assistant Professor of Computer Science, Computer Science Department.

September 1986–August 1989. Tufts University, Medford, Massachusetts. Assistant Professor of Computer Science, Department of Computer Science.

September 1985–August 1986. Tufts University, Medford, Massachusetts. Instructor of Computer Science, Department of Computer Science.

January 1979–January 1982. Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts. Teaching Assistant, Department of Electrical Engineering and Computer Science.

Experience Outside of Higher Education

A. Consulting and Contracting

August 2015–date. Wood Law, LLP, Kansas City, MO. Serving as cryptologic expert witness for plaintiff in *Alexander and Symington vs. BF Labs*, a class-action consumer protection case. Wrote a report estimating the number of Bitcoins mined by BF Labs using special-purpose hardware.

August 2014–March 2015. Lerner, David, Littenberg, Krumholz & Mentlik, LLP, NJ. Served as cryptologic expert witness for SPA Syspatronic in *SPA Syspatronic vs. U.S.* in patent litigation involving cryptographic portable data-carrying devices.

July 2014–January 2016. Blank Rome, Washington, DC. Serving as cryptologic expert witness for Strike Force in *Strike Force vs. Phone Factor* in patent litigation involving multi-channel authentication. Wrote validity and infringement reports.

May 2014–July 2015. Sidley Austin, Washington, DC. Served as cryptologic expert witness on invalidity for Apple in *Content Guard vs. Apple* in patent litigation involving digital rights management. Wrote invalidity IPRs.

May 2013–March 2014. Kirkland & Ellis, Chicago, IL. Served as a cryptologic expert witness on invalidity for Apple in *Intertrust vs. Apple* in patent litigation involving digital rights management. Wrote invalidity reports in support of five IPRs.

May 2013–May 2014. Perkins Coie, Seattle, WA. Served as a cryptologic expert witness on non-infringement for McAfee in *Uniloc vs. McAfee* in patent litigation involving product activation (via Rubin Anders).

April 2013–June 2013. Quinn Emanuel, Redwood Shores, CA. Researched prior art as expert cryptologic witness for IBM in *Softvault vs. IBM* in a patent litigation matter involving embedded controllers (via Thomson Reuters).

June 2012–December 2014. Kirkland & Ellis, Chicago, IL. Analyzed the validity of two cryptographic patents dealing with streaming media for Wowza Media Systems in *Adobe vs. Wowza*. Wrote invalidity and security reports and was deposed as expert witness.

April 2012–September 2013. Morgan, Lewis & Brockius, Houston, TX. Provided technical advice on prior art for Rite Aid in *TQP Development vs. DirectTV, et al.* (via Thomson Reuters, Rockville, MD).

October 2011–March 2012. Fish & Richardson, Boston, MA. Devised a technical work-around for Microsoft in the second damages phase of *Uniloc vs. Microsoft* concerning a patent for product activation, helping to reduce damages from

\$388 million to an amount reported to be about \$80 million. Wrote report and was deposed as expert witness.

July 2008–May 2010. ID2P Technologies, Inc., Lake Forest, CA. Evaluated the security of the SafeIDKey Authentication Device.

July 2008–July 2009. Kenyon & Kenyon, New York City, Provided technical advice as expert witness for Sony in *Certicom vs. Sony*.

August–September 2007; July 2008–January 2009. Kirkland & Ellis, New York City. Provided technical advice as expert witness concerning a cryptographic patent.

July 2006–April 2007. WilmerHale, Boston, Massachusetts and Washington, DC (via Silicon Valley Expert Witness Group, Inc., Washington, DC). Provided technical advice as expert witness for RSA in *PRISM vs. RSA Security, Inc., et al.*, in which PRISM alleged patent infringement.

July 2006–April 2007. State of Maryland, Attorney General's Office, Baltimore, Maryland. Wrote report and provided technical advice as expert witness in *Shade vs. State of Maryland State Board of Elections, et al.*, in which Shade sought to decertify the Diebold AccuvoteTS electronic voting system on the basis of poor security.

July 2005. State of Maryland, Attorney General's Office, Baltimore, Maryland. Testified as an expert witness in *Fox vs. State of Maryland Department of Budget and Management*, in which Fox sought access under FOIA to the unredacted SAIC report on the security of the Diebold AccuvoteTS electronic voting system.

May 2005. 2factor, L.L.C, Centreville, Virginia. Evaluated the security of the 2factor Authentication and Key-Management System.

August 4, 1997–April 2003. Cryptologic Consultant, NAI Labs at Network Associates, Inc., Rockville, Maryland—formerly Advanced Research and Engineering Division of Trusted Information Systems (TIS), Inc. Analyzed the security of the TIS RecoverKey product and performed cryptographic research in support of DARPA and other government contracts on key management for large dynamic groups, ultra-fast network authentication, and distributed sensor networks. Contractual arrangements last made through TAC Worldwide Companies. Supervisors: Dennis K. Branstad, David Balenson, Pete Dinsmore, Michael St. Johns.

July–August 2002. LuxSAT, Inc., Luxenburg, Netherlands. Evaluated security of a multimedia-on-demand broadcast system. Via Plus Five Consulting, Palo Alto, CA. Point of Contact: Robert W. Baldwin.

- January 2002.* InfoScape Corporation, Redmond, WA. Evaluated the security of protocols in InfoScape Technologies. Via Plus Five Consulting, Palo Alto, CA. Point of Contact: Robert W. Baldwin.
- September 2001.* Phoenix Technologies, San Jose, CA. Evaluated the security of the FirstAuthority StrongROM and StrongClient products. Point of contact: Sameer Mathur.
- March 27, 1997.* Science Applications International Corporation (SAIC), McLean, Virginia. Science & Technology Assessment Division. Advised government agencies on the impact of technology advances on cryptography and signals intelligence for the year 2010.
- March 28, 1991.* Synchronetics, Baltimore, Maryland. Suggested improvements to text-retrieval algorithms used in an automatic system that converts linear text to hypertext. Coordinated through the Technology Extension Service, University of Maryland.
- October 5 and 23, 1990.* Digital Systems Corporation, Walkersville, Maryland. Outlined a cryptographic scheme to authenticate control signals for electronically-operated vault doors. Coordinated through the Technology Extension Service, University of Maryland.
- July 10–12, 1982.* Mattel Inc., Hawthorne, California. Consultant, Mattel Toys. Devised a cryptographic method to authenticate electronic game scores on a 4-bit microprocessor.

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