

# CURRICULUM VITAE OF ANDREW G. WEST

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## EDUCATION

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<b>Ph.D.</b>	Computer and Information Science	University of Pennsylvania	Spring 2013
<b>M.S.E.</b>	Computer and Information Science	University of Pennsylvania	Spring 2010
<b>B.Sc.</b>	Computer Science (w/honors)	Washington & Lee University	Spring 2007

## CURRENT POSITION

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**Verisign, Strategy & Analytics / VLabs** – Principal Research Scientist – *Dec. 2017 onward*

**Verisign, Strategy & Analytics / VLabs** – Sr. Research Scientist – *Jun. 2016 to promotion*

**Verisign, Verisign Labs** – Sr. Research Scientist – *Feb. 2015 to team change*

**Verisign, Verisign Labs** – Research Scientist – *Jun. 2013 to promotion*

In my role with the Strategy & Analytics group I apply deep learning, machine learning, forecasting, and other data science techniques across Verisign's domain name business and associated marketing efforts. While now more focused on internal insights, I continue to publish research and pursue intellectual property via my affiliation with Verisign Labs.

## RESEARCH INTERESTS

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### Current Specializations

Deep learning, machine learning, forecasting, domains, domain name lifecycle, crowdsourcing, Internet measurement, NLP, big data, data science, Web 2.0 security, anti-abuse, underground economies, reputation management, Wikipedia.

### Dissertation Focus

Leveraging machine-learning and behavioral modeling for anti-abuse (*e.g.*, vandalism, spam, copyright violation) analysis and detection in Web 2.0 information systems, particularly those with user-generated and collaborative semantics (*e.g.*, wikis).

## INTELLECTUAL PROPERTY

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- [1] "System for and Method of Ranking Domain Names Based on User Properties". Swapneel Sheth and Andrew G. West. *U.S. Patent 10,693,837* (Granted June 23, 2020; filed August 24, 2017).
- [2] "Systems and Methods for Determining Character Entry Dynamics for Text Segmentation". Andrew G. West. *U.S. Patent 10,771,427* (Granted September 8, 2020; filed February 18, 2016).
- [3] "Detecting and Mitigating Registrar Collusion in Drop-Add Acquisitions of Domain Names". Arash Molavi Kakhki, Andrew G. West, Nipun Jawalkar, and Vincenzo Russo. *U.S. Patent 10,375,017* (Granted August 6, 2019; filed December 31, 2015).

**Conference and Workshop Papers**

- [1] “Analyzing the Keystroke Dynamics of Web Identifiers”. Andrew G. West. In *WebSci '17: Proc. of the 9th Intl. ACM Web Science Conf.*, pp. 181–190. Troy, NY, USA. June 2017.
- [2] “Chatter: Classifying Malware Families using System Event Ordering”. Aziz Mohaisen, Andrew G. West, Allison Mankin, and Omar Orlawi. In *CNS '14: Proc. of the 2nd IEEE Conf. on Comm. and Network Security*, pp. 283–291. San Francisco, CA, USA. Oct. 2014.
- [3] “ADAM: Automated Detection and Attribution of Malicious Webpages”. Ahmed E. Kosba, Aziz Mohaisen, Andrew G. West, Trevor Tonn, and Huy Kang Kim. In *WISA '14: Proc. of the 15th International Workshop on Information Security Applications, LNCS 8909 (K.H. Rhee and J.H. Yi eds.)*, pp. 3–16. Jeju Island, South Korea, August 2014.
- [4] “Metadata-driven Threat Classification of Network Endpoints Appearing in Malware”. Andrew G. West and Aziz Mohaisen. In *DIMVA '14: Proceedings of the 11th Conference on Detection of Intrusions and Malware & Vulnerability Assessment, LNCS 8550 (S. Dietrich ed.)*, pp. 152–171. Egham, UK. July 2014.
- [5] “On the Privacy Concerns of URL Query Strings”. Andrew G. West and Adam Aviv. In *W2SP '14: Proc. of the 8th Wkshp. on Web 2.0 Sec. and Privacy*. San Jose, CA. May 2014.
- [6] “Towards Content-driven Reputation for Collaborative Code Repositories”. Andrew G. West and Insup Lee. In *WikiSym '12: Proceedings of the Eighth International Symposium on Wikis and Open Collaboration*, pp. 13:1–13:4. Linz, Austria. August 2012.
- [7] “Spamming for Science: Active Measurement in Web 2.0 Abuse Research”. Andrew G. West, Pedram Hayati, Vidyasagar Potdar, and Insup Lee. In *WECSR '12: Proceedings of the Third Workshop on Ethics in Computer Security Research, LNCS 7398 (J. Blythe, S. Dietrich, and L.J. Camp eds.)*, pp. 98–111. Kralendijk, Bonaire. March 2012.
- [8] “Autonomous Link Spam Detection in Purely Collaborative Environments”. Andrew G. West, Avantika Agrawal, Phillip Baker, Brittney Exline, and Insup Lee. In *WikiSym '11: Proceedings of the Seventh International Symposium on Wikis and Open Collaboration*, pp. 91–100. Mountain View, CA, USA. October 2011.
- [9] “What Wikipedia Deletes: Characterizing Dangerous Collaborative Content”. Andrew G. West and Insup Lee. In *WikiSym '11: Proceedings of the Seventh International Symposium on Wikis and Open Collaboration*, pp. 25–28. Mountain View, CA, USA. October 2011.
- [10] “Link Spamming Wikipedia for Profit”. Andrew G. West, Jian Chang, Krishna Venkatasubramanian, Oleg Sokolsky, and Insup Lee. In *CEAS '11: Proceedings of the Eighth Annual Collaboration, Electronic Messaging, Anti-Abuse, and Spam Conference*, pp. 152–161. Perth, AUS. September 2011. (co-Best Paper Award).
- [11] “Towards the Effective Temporal Association Mining of Spam Blacklists”. Andrew G. West and Insup Lee. In *CEAS '11: Proceedings of the Eighth Annual Collaboration, Electronic Messaging, Anti-Abuse, and Spam Conference*, pp. 73–82. Perth, AUS. September 2011.
- [12] “Multilingual Vandalism Detection using Language-Independent & Ex Post Facto Evidence”. Andrew G. West and Insup Lee. In *PAN-CLEF '11: Notebook Papers on Uncovering Plagiarism, Authorship, and Social Software Misuse*, Amsterdam. Sept. 2011.
- [13] “ToMaTo: A Trustworthy Code Mashup Development Tool”. Jian Chang, Krishna K. Venkatasubramanian, Andrew G. West, Sampath Kannan, Oleg Sokolsky, Myuhng Joo Kim, and Insup Lee. In *MASHUPS '11: Proceedings of the 5th International Workshop on Web APIs and Service Mashups*, Lugano, Switzerland. September 2011.

- [14] “AS-TRUST: A Trust Quantification Scheme for Autonomous Systems in BGP”. Jian Chang, Krishna Venkatasubramanian, Andrew G. West, Sampath Kannan, Boon Thau Loo, Oleg Sokolsky, and Insup Lee. In *TRUST '11: Proc. of the 4th International Conference on Trust and Trustworthy Computing, LNCS 6740*, pp. 262–276. Pittsburgh, PA, USA. June 2011. (A preliminary version was published as UPenn Technical Report MS-CIS-10-25).
- [15] “Wikipedia Vandalism Detection: Combining Natural Language, Metadata, and Reputation Features”. B. Thomas Adler, Luca de Alfaro, Santiago M. Mola-Velasco, Paolo Rosso, and Andrew G. West. In *CICLing '11: Proceedings of the 12th International Conference on Intelligent Text Processing and Computational Linguistics, LNCS 6609*, pp. 277–288. Tokyo, Japan. February 2011.
- [16] “Spam Mitigation using Spatio-Temporal Reputations from Blacklist History”. Andrew G. West, Adam J. Aviv, Jian Chang, and Insup Lee. In *ACSAC '10: Proceedings of the 26th Annual Computer Security Applications Conference*, pp. 161–170. Austin, TX, USA. Dec. 2010. (A preliminary version was published as UPenn Technical Report MS-CIS-10-04).
- [17] “Detecting Wikipedia Vandalism via Spatio-Temporal Analysis of Revision Metadata”. Andrew G. West, Sampath Kannan, and Insup Lee. In *EUROSEC '10: Proceedings of the Third European Workshop on System Security*, pp. 22–28. Paris, France. April 2010. (A preliminary version was published as UPenn Technical Report MS-CIS-10-05).
- [18] “QuanTM: A Quantitative Trust Management System”. Andrew G. West, Adam J. Aviv, Jian Chang, Vinayak S. Prabhu, Matt Blaze, Sampath Kannan, Insup Lee, Jonathan M. Smith, and Oleg Sokolsky. In *EUROSEC '09: Proceedings of the Second European Workshop on System Security*, pp. 28–35. Nuremberg, Germany. March 2009.

#### **Book Chapters, Journal Papers, and Periodicals**

- [19] “Wikipedia and Medicine: Quantifying Readership, Editors, and the Significance of Natural Language”. James M. Heilman and Andrew G. West. *Journal of Medical Internet Research*, 17(3): pp. e62. March 2015.
- [20] “Measuring Privacy Disclosures in URL Query Strings”. Andrew G. West and Adam J. Aviv. *IEEE Internet Computing*, 18(6): pp. 52–59. November/December 2014.
- [21] “AS-CRED: Reputation and Alert Service for Inter-domain Routing”. Jian Chang, Krishna K. Venkatasubramanian, Andrew G. West, Sampath Kannan, Insup Lee, Boon Thau Loo, and Oleg Sokolsky. *IEEE Systems, special issue on Security and Privacy in Complex Systems*, 7(3): pp. 396–409. September 2013. (A preliminary version was published as UPenn Technical Report MS-CIS-10-17).
- [22] “Analyzing and Defending Against Web-based Malware”. Jian Chang, Krishna K. Venkatasubramanian, Andrew G. West, and Insup Lee. *ACM Computing Surveys*, 45(4): pp. 49:1–49:35. August 2013.
- [23] “Trust in Collaborative Web Applications”. Andrew G. West, Jian Chan, Krishna K. Venkatasubramanian, and Insup Lee. *Future Generation Computer Systems, special section on Trusting Software Behavior*, 28(8): pp. 1238–1251. Elsevier Press, October 2012. (A preliminary version was published as UPenn Technical Report MS-CIS-10-33).
- [24] “Open Wikis and the Protection of Institutional Welfare”. Andrew G. West and Insup Lee. *Research Bulletin, EDUCAUSE Center for Applied Research*, Boulder, CO, USA, Feb. 2012.
- [25] “An Evaluation Framework for Reputation Management Systems”. Andrew G. West, Insup Lee, Sampath Kannan, and Oleg Sokolsky. Book chapter in *Trust Modeling and*

*Management in Digital Environments: From Social Concept to System Development* (Zheng Yan, ed.), pp. 282–308. Information Science Reference, Hershey, PA, USA, 2010.

### **Technical and Internal Reports**

- [26] “Damage Detection and Mitigation in Open Collaboration Applications”. Andrew G. West. *PhD thesis, University of Pennsylvania*, May 2013.
- [27] “CleanURL: A Privacy Aware Link Shortener”. Daniel Kim, Kevin Su, Andrew G. West, and Adam J. Aviv. *Technical Report MS-CIS-12-12, University of Pennsylvania, Department of Computer and Information Science*, July 2012.
- [28] “Calculating and Presenting Trust in Collaborative Content”. Andrew G. West. *Technical Report MS-CIS-10-33, University of Pennsylvania, Department of Computer and Information Science*, October 2010 (In partial fulfillment of the WPEII requirement).
- [29] “AS-TRUST: A Trust Characterization Scheme for Autonomous Systems in BGP”. Jian Chang, Krishna K. Venkatasubramanian, Andrew G. West, Sampath Kannan, Boon Thau Loo, Oleg Sokolsky, and Insup Lee. *Technical Report MS-CIS-10-25, University of Pennsylvania, Department of Computer and Information Science*, August 2010.
- [30] “AS-CRED: Reputation Service for Trustworthy Inter-domain Routing”. Jian Chang, Krishna K. Venkatasubramanian, Andrew G. West, Sampath Kannan, Insup Lee, Boon Thau Loo, and Oleg Sokolsky. *Technical Report MS-CIS-10-17, University of Pennsylvania, Department of Computer and Information Science*, April 2010.
- [31] “Detecting Wikipedia Vandalism via Spatio-Temporal Analysis of Revision Metadata”. Andrew G. West, Sampath Kannan, and Insup Lee. *Technical Report MS-CIS-10-05, University of Pennsylvania, Dept. of Computer and Information Science*, February 2010.
- [32] “Mitigating Spam Using Spatio-Temporal Reputation”. Andrew G. West, Adam J. Aviv, Jian Chang, and Insup Lee. *Technical Report MS-CIS-10-04, University of Pennsylvania, Department of Computer and Information Science*, February 2010.

### **Demonstrations, Tutorials, and Posters (with proceedings)**

- [33] “ADAM: Automated Detection and Attribution of Malicious Webpages”. Ahmed E. Kosba, Aziz Mohaisen, Andrew G. West, and Trevor Tonn. Poster. In *CNS '13: Proc. of the First IEEE Conf. on Comm. and Network Sec.*, pp. 399–400. Washington D.C., USA. Oct. 2013.
- [34] “Babble: Identifying Malware by Its Dialects”. Aziz Mohaisen, Omar Alrawi, Andrew G. West, Allison Mankin, and Trevor Tonn. Poster. In *CNS '13: Proc. of the First IEEE Conf. on Comm. and Network Sec.*, pp. 407–408. Washington D.C., USA. Oct. 2013.
- [35] “STiki: An Anti-Vandalism Tool for Wikipedia Using Spatio-Temporal Analysis of Revision Metadata”. Andrew G. West, Sampath Kannan, and Insup Lee. Formal demonstration. In *WikiSym '10: Proceedings of the Sixth International Symposium on Wikis and Open Collaboration*, Gdańsk, Poland. July 2010.
- [36] “Spatio-Temporal Analysis of Wikipedia Metadata and the STiki Anti-Vandalism Tool”. Andrew G. West, Sampath Kannan, and Insup Lee. Poster. In *WikiSym '10: Proceedings of the Sixth Intl. Symposium on Wikis and Open Collaboration*, Gdańsk, Poland. July 2010.

### **Presentations and Talks (without proceedings)**

- [37] “Damage Detection and Mitigation in Open Collaboration Applications”. Guest lecture at *George Washington University*, Intro to Data Science. Ashburn, VA, USA. October 2017.
- [38] “Measuring Privacy Disclosures in URL Query Strings”. Presented at *United States Naval Academy*. Annapolis, MD, USA. September 2014.

- [39] “Measuring Privacy Disclosures in URL Query Strings”. Poster at *USENIX Security Symposium*. San Diego, CA, USA. August 2014.
- [40] “Wikipedia and Medicine”. Presented with James Heilman at *Wikimania ‘14: The International Wikimedia Conference*. London, UK. August 2014.
- [41] “Securing Wiki Platforms Against Malicious Contributions”. Presented at *WikiSym ‘12 – Doctoral Symposium*. Linz, Austria. August 2012.
- [42] “Securing Wiki Platforms Against Malicious Contributions”. Presented at *Polytechnic University of Catalonia*. Barcelona, Spain. June 2012.
- [43] “Anti-Vandalism Research: The Year in Review”. Presented at *Wikimania ‘11: The International Wikimedia Conference*. Haifa, Israel. August 2011.
- [44] “Autonomous Detection of Collaborative Link Spam”. Presented at *Wikimania ‘11: The International Wikimedia Conference*. Haifa, Israel. August 2011.
- [45] “Protecting Wikipedia from Vandalism, Spam, and Dangerous Content”. Presented at *Columbia University Security Seminar*. New York, NY, USA. March 2011.
- [46] “Spatio-Temporal Analysis of Revision Metadata and the STiki Anti-Vandalism Tool”. Presented at *Wikimania ‘10: The Intl. Wikimedia Conference*. Gdańsk, Poland. July 2010.
- [47] “An Introduction to L<sup>A</sup>T<sub>E</sub>X”. Presented at *UPenn, School of Engineering and Applied Science, Technical Communication Program*. Philadelphia, PA, USA. October 2008.

### Undergraduate Writings

- [48] “Bound Optimization for Parallel Quadratic Sieving Using Large Prime Variations”. Andrew G. West. *Undergraduate Honor’s Thesis, Washington & Lee University*. May 2007.
- [49] “Optimized Parallel Implementation of the Quadratic Sieve Factorization Algorithm”. Andrew G. West. *Washington and Lee Journal of Science*, 8(2):25–26, 2007.

## SOFTWARE & DATA SETS

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Most resources are available via the author’s website (otherwise, contact directly) and all will be shared to the greatest extent permissible. All code is released under open-source licensing:

- STIKI: A wiki anti-vandalism tool consisting of a back-end engine for real-time revision processing and a user-facing GUI that presents probable vandalism to end users. Also includes anti-spam logic. Has been used to remove 1.1+ *million* unconstructive contributions from English Wikipedia and remains in active development. *Software*.
- WIKIAUDIT: Provided an IP range this tool produces a report of wiki contributions from those addresses, with heuristics to detect unconstructive changes. Useful for network administrators and investigations into author bias. *Software*.
- REPUTATION SIMULATOR: A test framework for reputation management algorithms. New techniques can be easily interfaced into the test bed, where various attacks are simulated, with robustness/performance metrics produced as output. *Software*.
- VANDALISM CORPUS: 5.7 million automatically-parsed (per ex post facto evidence) and 5,000 manually-confirmed incidents of vandalism on English Wikipedia. *Corpus*.
- DATA COLLECTIONS: Extensive histories (and code to obtain/process/access data) from: (a) Spamhaus blacklists, (b) Google Safe Browsing, (c) Wikipedia’s metadata, hyperlink, and category infrastructure, and (d) Wikipedia page view statistics. *Data collections*.

## MEDIA ATTENTION

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- “Verisign gets domain search ranking patent”. A. Alleman. *Domain Name Wire*. Jun. 2020.
- “Is Verisign about to change the expired domain drop catching game?”. Andrew Alleman. *Domain Name Wire*. July 2017.
- “Wikipedia announces their most viewed articles of 2016”. *SlashDot*. January 2017
- “The most challenging job of the 2016 race: Editing the candidates’ Wikipedia pages”. Chris Alcantara. *The Washington Post*. October 2016.
- “New from Verisign Labs – Measuring Privacy Disclosures in URL Query Strings”. *Between the Dots: Verisign Corporate Blog* and *CircleID* (sponsored), August 2014.
- “Examining the Popularity of Wikipedia Articles: Catalysts, Trends, and Applications”. Contribution to *Wikipedia Signpost*, 9(6), Feb. 2013 (coverage by R. Rosen for *The Atlantic*, J. Condliffe for *Gizmodo*, A. Toor at *TheVerge.com*, W. Fenlon at *Tested.com*, et al.).
- “What Wikipedia Deletes, and Why”. Alexandra Rice. *The Chronicle of Higher Education: The Wired Campus*, October 2011.
- “Link Spam on Wikis: Attack Models and Mitigation”. Invited contribution to *Follow the Crowd (crowd-computing research blog)*, October 2011.
- “Content Redaction on Wikipedia: Copyright is Biggest Threat”. Invited contribution to *Follow the Crowd (crowd-computing research blog)*, October 2011.
- “Link Spam Research with Controversial Genesis but Useful Results”. *Wikimedia Research Newsletter*, 1(3), September 2011.
- “Deleted Revisions in the Wikipedia”. *Wikimedia Research Newsletter*, 1(2), August 2011.
- “Vandalism Detectors Collaborate”. *Wikipedia Signpost*, 7(8), February 2011.

## PROGRAM COMMITTEES, EDITORSHIPS, & OTHER SERVICE

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### Program Committees

- SIMPLEX ‘16: 8th Workshop on Simplifying Complex Networks for Practitioners (workshop of IEEE ICNP). November 2016. Singapore.
- ACSAC ‘15: 31st Annual Comp. Sec. Applications Conf. Dec. 2015. Los Angeles, CA.
- TrustCom ‘15: 14th IEEE International Conference on Trust, Security, and Privacy in Computing and Communications. August 2015. Helsinki, Finland.
- CSET ‘15: 8th Workshop on Cyber Security Experimentation and Test (workshop of the USENIX Security Symposium). August 2015. Washington DC, USA.
- SIMPLEX ‘15: 7th Workshop on Simplifying Complex Networks for Practitioners (workshop of WWW). May 2015. Florence, Italy.
- ACSAC ‘14: 30th Annual Comp. Sec. Applications Conf. Dec. 2014. New Orleans, LA.
- HotData ‘14: 1st International Workshop on Hot Topics in Big Data and Networking (workshop of ICCCN). August 2014. Shanghai, China.
- SIMPLEX ‘14: 6th Workshop on Simplifying Complex Networks for Practitioners (workshop of WWW). April 2014. Seoul, South Korea.
- TrustID ‘13: 3rd Intl. Symposium on Trust and Identity in Mobile Internet, Computing, and Communications (symposium of IEEE TrustCom). July 2013. Melbourne, Australia.
- iThings ‘12: The IEEE International Conference on Internet of Things. TRACK: *Reliability, Security, Privacy, and Trust*. November 2012. Besançon, France.

- TrustID '12: 2nd Intl. Symposium on Trust and Identity in Mobile Internet, Computing, and Communications (symposium of IEEE TrustCom). June 2012. Liverpool, UK.
- TrustID '11: 1st Intl. Workshop on Trust and Identity in Mobile Internet, Computing, and Communications (workshop of IEEE TrustCom). November 2011. Changsha, China.
- Joint special track for UIC '10 (7th International Conference on Ubiquitous Intelligence and Computing) and ATC '10 (Autonomic and Trusted Computing). TRACK: *Pervasive Social Computing*. October 2010. Xi'an, China.

### **Guest and Delegated Conference/Workshop Reviews**

- ICWSM '14: Conference on Weblogs and Social Media
- WWW '14: World Wide Web Conference
- ACSAC '13: Annual Computer Security Applications Conference
- CSCW '13: Conference on Computer Supported Cooperative Work
- HEALTHTECH '13: Workshop on Health Information Technologies
- ATVA {'12, '09}: Symposium on Automated Technology for Verification and Analysis
- ICCAD {'12, '11}: Conference on Computer-Aided Design
- WH '11: Conference on Wireless Health
- ISORC '10: Symposium on Object/Component/Service Real-time Distributed Computing
- ICCPS '10: Conference on Cyber-Physical Systems
- RV '09: Workshop on Runtime Verification
- LCTES '09: Conference on Languages, Compilers, and Tools for Embedded Systems
- ICTAC '09: Colloquium on Theoretical Aspects of Computing

### **Journal and Book Editorships**

- KSII Transactions on Internet and Info. Systems (KSII TIIS). Dec. 2014 – Jan. 2016.

### **Guest and Delegated Journal/Book Reviews**

(Dates indicate when the review(s) occurred, not the publication year of any particular paper/issue/chapter)

- Expert Systems with Applications (ESWA). Elsevier Press, 2017.
- ACM Transactions on Intelligent Systems and Technology (ACM TIST). ACM Press, 2015.
- KSII Transactions on Internet and Information Systems (KSII TIIS). KSII Online, 2014.
- Future Generation Computer Systems (FGCS) special issue on Trustworthy Data Fusion and Mining in Internet of Things. Elsevier Press, 2014.
- IEEE Transac. on Knowledge and Data Eng. (IEEE TKDE). IEEE Comp. Society, 2014.
- IEEE Transactions on Reliability (IEEE TR) special section on Trustworthy Computing. IEEE Computer Society, 2014.
- ACM Transactions on Internet Technology (ACM TOIT). ACM Press, {2013, 2012}.
- IEEE Transactions on Parallel and Distributed Systems (IEEE TPDS) special issue on Trust, Security, and Privacy. IEEE Computer Society, 2013.
- Journal of the American Society for Info. Science and Tech. (JASIST). Wiley Press, 2013.
- IET Information Security (IET IFS). IET Press, 2012.
- Security and Communication Networks special issue on Spam, Phishing, and Countermeasures for Undesirable Electronic Communications. Wiley Press, 2012.
- ACM Transactions on Intelligent Systems and Technology (ACM TIST) special issue on Search and Mining User Generated Content. ACM Press, 2011.

- Future Generation Computer Systems (FGCS) special section on Trusting Software Behavior. Elsevier Press, 2011.
- Trust Modeling and Management in Digital Environments. IGI Global Press, 2009.

### Dissertation Oversight

- “Detecting Vandalism on Wikipedia Across Multiple Languages”. Khoi-Nguyen Dao Tran. The Australian National University. May 2015. *External PhD committee member*.

### Grant Review and Funding Dissemination

- Served as a “flow funder” for the Wikimedia Foundation (parent organization of Wikipedia) where “volunteers will be entrusted with decision-making power to fund projects aligned with the Wikimedia movement’s strategic goals.” Nov. 2012 – July 2013.

## INTERNAL PRESENTATIONS & SERVICE (VERISIGN LABS)

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### Internal Research Presentations/Articles

- “Profiling Domain Re-registrations”. Andrew G. West. *Verisign TechX*. September 2018.
- “Renewal Modeling with Machine Learning”. Andrew G. West. *Verisign Research Summit*. January 2018.
- “Crowdsourcing Shelf Space Measurements at Registrar Sites”. Andrew G. West. *Verisign TechX*. September 2017.
- “Drop-Catch Price Elasticity Modeling”. Andrew G. West and Yannis Labrou. *Verisign Research Summit*. January 2017.
- “[presentation title redacted]”. Yannis Labrou and Andrew G. West. *Verisign Research Summit*. January 2017.
- “50 Shades of Grey: Measuring and Forecasting Organic Domain Token Popularity”. Andrew G. West. *Verisign Technical Symposium*. September 2015.
- “Measuring Privacy Disclosures in URL Query Strings”. Andrew G. West. *Verisign Data Symposium*. December 2014.
- “The Success is in the Name ...”. Vincent Raemy, Vincenzo Russo, and Andrew G. West. *Verisign Data Symposium*. December 2014.
- “World Cup Trends in Verisign Data”. Andrew G. West. *Internal article*. June 2014.
- “Web of Redirection: Measuring Domain Forwarding and Applications at Internet-scale”. Galileo Namata, Andrew G. West, and Aziz Mohaisen. *CTO Research Huddle*. June 2014.
- “Endpoint Analysis of HTTP Malware Communications”. Andrew G. West, Aziz Mohaisen, and Trevor Tonn. *Verisign Data Symposium*. September 2013.
- “Collaborative Security: Why Wikipedia Does Not Fail”. Andrew G. West. *CTO Research Huddle*. September 2013.

### Internship Advising

- “Brand Protection against Domain Squatting”. Mohammad Taha Khan (PhD student; University of Illinois at Chicago). *Summer 2019*.
- “Forecasting Domain Name Registrations using Deep Learning”. MD Yasin Kabir (PhD student; Missouri S&T). *Summer 2018*.
- “Measuring the Individual Domain Buyer Market”. Xiaojia Ge (Master’s student; George Washington University). *Summer 2017*.



- “[title redacted]”. Mohammed Raihanul Islam (PhD student; Virginia Tech). *Summer 2017*.
- “[title redacted]”. Yaser Keneshloo (PhD student; Virginia Tech). *Summer 2017*.
- “Clustered Event Detection in a Domain Registration Feed”. Wei Wang (PhD student; Virginia Tech). *Summer 2015*.
- “Training Domain Name Categorization using Public Directory Data”. Chong Wang (PhD student; NJ Institute of Technology). *Summer 2015*.
- “Understanding the Domain Name Drop-catch Ecosystem”. Arash Molavi Kakhki (PhD student; Northeastern University). *Summer 2014*.
- “Correlating Domain Popularity with Naming Characteristics”. Vasudev Bhat (Master’s student; Stony Brook University). *Summer 2014*.
- “ADAM: Automated Detection and Attribution of Malicious Webpages”. Ahmed E. Kosba (PhD student; University of Maryland). *Summer 2013*.

### **Program and Planning Committees**

- Verisign TechX; planning committee member. *September 2018*.
- Verisign Research Summit; program committee member. *January 2018*.

### **Management, Recruitment, and Training**

- Served as hiring manager for Verisign Labs Summer Intern Program, overseeing the recruitment, onboarding, and progress of a dozen graduate research interns. *2014-2016*.
- Completed Management “STEPS” training, a 6-day instructor-led course focusing on “self-awareness, teams, execution, people, and strategic thinking”. *June 2014*.

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## **GRADUATE TEACHING, ADVISING, & LEADERSHIP (UPENN)**

### **Teaching Assistantships**

In 10 semesters as TA of the Senior Capstone course, 100+ student teams and their year-long research/implementation projects were advised and evaluated. Guiding project management, methodology, and technical writing components provided tremendous experience in planning towards successful research outcomes.

- CIS400 – Senior Design Projects (1<sup>st</sup> half). *Fall 2008–2012 (5 editions)*
- CIS401 – Senior Design Projects (2<sup>nd</sup> half). *Spring 2009–2013 (5 editions)*

### **Teaching Certification**

Awarded Penn’s Center for Teaching and Learning (CTL) certificate, granted after: (1) pedagogical training, (2) sufficient teaching experience, (3) lecture observation and critique, and (4) review of teaching philosophy. *December 2012*.

### **Undergraduate Advising**

- “Completing Categorical Ontologies with Graph-inference and Machine Learning”  
Cristoforo Feo and Benjamin Perez. *2012–2013 academic year*.
- “A Comparative Evaluation of RFID Geolocation Techniques”  
Preetam D’Souza, Max Guo, and David Wang. *2012–2013 academic year*.
- “CleanURL: A Privacy-aware Link Shortener”  
Daniel Kim and Kevin Su. *2011–2012 academic year*.
- “Autonomous Link Spam Detection in Purely Collaborative Environments”  
Avantika Agrawal, Phillip Baker, and Brittney Exline. *2010–2011 academic year*.

## Institutional Involvement/Leadership

- GSCSG Chair – (Graduate Student Computer Science Group)  
Social planning and organization at department granularity. *Spring 2009 until graduation.*
- GSEG Representative – (Graduate Student Engineering Group)  
Student advocacy and programming at college granularity. *Fall 2008 until graduation.*

## Technical Writing Consultant

Combined expert-level English with formal communications training as a sought-after resource for review of research/grant materials, content development, and ESL assistance. Work was conducted in various official and unofficial capacities in the form of individual counseling, class lectures, and document review sessions. *Summer 2007 until graduation.*

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## PRIOR EMPLOYMENT

### Also Digital Library – Database Programmer/Engineer – *Summer 2006*

- SQL and .NET programming in support of the Also Project (<http://alsos.wlu.edu>)
- Improved search methodology and query efficiency; cooperated closely with content team

### WV-DEP – GIS Programmer/Technical Assistant – *Summer 2005*

- Spatial analysis of environmental abuses, guiding targeted enforcement efforts
- MS Visual Basic programming; AutoCAD plotting; website and media design

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## COMPUTER SKILLS AND LANGUAGES

- Extremely proficient with development in Java, C/C++, and SQL
- Functional in BASH shell, C#, .NET, Python, Scheme
- Big data with HDFS, (streaming) MapReduce, HIVE/Impala, Hue
- Software: Weka (machine-learning), Tableau (visualization), L<sup>A</sup>T<sub>E</sub>X (typesetting), R (stats)
- Capable in UNIX/Linux, MacOS, and Windows operating environments

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## PROFESSIONAL AND SOCIAL MEMBERSHIPS

- ACM (Association for Computing Machinery) – Professional organization
- IEEE (Institute of Electrical and Electronics Engineers) – Professional organization
- USENIX (Advanced Computing Systems Association) – Professional organization
- ΠME (Pi Mu Epsilon) – Math honorary fraternity
- ΣN (Sigma Nu) – Social fraternity

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## AWARDS AND HONORS

- **2017 Q2:** Verisign “Above and Beyond Award” for “leveraging machine learning techniques . . . work[ing] effectively across various teams . . . [and] positive energy and work ethic”, in reference to two parallel data collection and modeling projects.
- **2014 Q3:** Verisign “Above and Beyond Award” for intern program coordination efforts.

- **2014-2011:** Scholarships to attend *Wikimania* (London, United Kingdom; 2014) (Hong Kong, China; 2013) (Washington D.C., USA; 2012) (Haifa, Israel; 2011) – “. . . selected based on your dedication and participation in the Wikimedia movement or other free knowledge . . . initiatives and your potential to add great value . . . going forward.”
- **2012:** Invitation and scholarship to attend the Google Graduate Researchers in Academia of Diverse backgrounds (GRAD) CS Forum (Mountain View, CA).
- **2011:** First place, PAN-CLEF 2011 Wikipedia vandalism detection competition – Winning approach for all language editions (German, English, and Spanish corpora).
- **2007-2003:** J. Edward Lewis Scholarship – Merit-based scholarship providing full tuition, room, and board to Washington and Lee University (Lexington, VA).