

CURRICULUM VITAE

Claude F. Turner, Ph.D.

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RESEARCH INTERESTS

- Cybersecurity: Malware Detection, Analysis, Mitigation, and Security Visualization
- Computer, Network and Speech Forensics
- Information Privacy and Anonymity
- Computer Science and Cybersecurity Education
- Applications of Engineering and Computer Science Principles to Solve Cybersecurity Problems
- Financial Computing

EDUCATION

Doctor of Philosophy in Electrical Engineering, The Graduate Center of The City University of New York, January 2003

Master of Engineering in Electrical Engineering, June 1995, The City College of the City University of New York

Bachelor of Engineering in Electrical Engineering, June 1993, City College of the City University of New York

EXPERIENCE

Associate Professor, Department of Computer Science, Norfolk State University, Norfolk, VA (8/2014 – Present)

Associate Professor, Department of Computer Science, Bowie State University, Bowie, MD (8/2011—8/2014)

Director, Center for Cybersecurity and Emerging Technologies, Bowie State University, Bowie State University, Bowie, MD (6/2011 – 8/2014)

Assistant Professor, Department of Computer Science, Bowie State University, Bowie, MD
(8/2005—8/2011)

Independent Consultant-Web Developer, Segma Technologies, Inc., Silver Spring, MD
(2006-2008)

Visiting Assistant Professor, Department of Computer and Information Sciences,
Fordham University, (9/2003—6/2005)

Adjunct Assistant Professor, Department of Physical, Computer and Environmental Sciences,
Medgar Evers College of the City University of New York, (9/1996—6/2005)

Adjunct Lecturer, Dept. of Computer Science and Information Systems, Pace University, (1/2000
—8/2002)

GRANTS

Funded Projects:

- PI, NSF “LUCID: A Spectator Targeted Visualization System to Broaden Participation at Cyber Defense Competitions” (funded September, 2013) \$899,709
- PI, “DoD Information Assurance Scholarship Program” (funded September, 2013) \$50,231
- CoPI, DOE National Nuclear Security Administration grant, “Addressing the Shortage of Cybersecurity Workers through Relevant and Dynamic Training,” funded, September 2012) \$453,000
- PI, DoD Information Assurance Scholarship Program (IASP) grant, “Bridge to a Higher Education in Information Assurance.” (funded, August, 2012) \$72,063
- CoPI, DoD IASP grant, “Courseware sharing with Bowie State University.” (funded, August, 2011) \$20,191.95
- CoPI, NSF grant, “Integrating Usability and Accessibility in Information Assurance Education,” (funded, September, 2008) \$299,832
- CoPI: “Building Security In: Injecting Security throughout Undergraduate Computing Curricula,” (funded, September 2008) \$399,511
- CoPI: “A Second Generation Faculty Development Program,” NSF (2007) \$299,963

- PI, BSU BETTER grant, “Mobile Computing, Wireless Networks and The Internet,” BETTER Faculty Grants, Bowie State University (2005) \$15,000

Proposals Currently Under Consideration:

- CoPI, NSF Division of Graduate Education, Federal Cyber Service: Scholarship for Service, “Digital Forensics Center of Excellence,” \$500,000, submitted 12/18/2015
- PI, NSF Division of Graduate Education, Secure and Trustworthy Cyberspace, “EDU: Making Sense of Network Data: Improving Security by Improving the Usability of Network Tools,” \$300,000, submitted 12/16/2015
- CoPI, NSF Division Of Human Resource Development, HIST BLACK COLLEGES AND UNIV, “Targeted Infusion Project: Security Pedagogy Across the Curriculum: A Model to Integrate Cybersecurity into the Social Sciences,” \$399,974, submitted 12/16/2015

SELECTED PUBLICATIONS

1. Claude Turner and Anthony Joseph, “A Wavelet and Mel-Frequency Cepstral Coefficients-Based Feature Extraction Method for Speaker Identification,” *Procedia Computer Science*, Vol. 61, 2015, pp 416-421 (journal)
2. Claude Turner and Carlene Turner, “A Model to Integrate Cybersecurity into K-12 Summer Camps through Experiential Learning,” 19th Annual Colloquium for Information Systems Security, June 15-17, 2015, Las Vegas, NV (conference proceeding)
3. Claude Turner, Jie Yan, Dwight Richards, Jide Odubiyi, Pamela O’Brien, Quincy Brown, “LUCID: A Visualization and Broadcast System for Cyber Defense Competitions,” *ACM Inroads*, Vol. 6, Issue 2, May 2015 (journal)
4. Kato Mivule and Claude Turner, “Applying Moving Average Filtering for Differential Privacy Settings,” *Procedia Computer Science*, Vol. 36, Pages 409-414, 2014 (journal)
5. Anthony Joseph, Maurice Larrain, and Claude Turner, “The Treasury Bill Rate, the Great Recession, and Neural Networks Estimates of Real Business Sales,” *Procedia Computer Science*, Vol. 36, Pages 227-333, 2014 (journal)
6. Rose Shumba, Kirsten Ferguson-Boucher, Elizabeth Sweedyk, Carol Taylor, Guy Franklin, Claude Turner, Corrine Sande, Gbemi Acholonu, Rebecca Bace, and Laura Hall. 2013. Cybersecurity, women and minorities: findings and recommendations from a preliminary

investigation. In *Proceedings of the ITiCSE working group reports conference on Innovation and technology in computer science education-working group reports (ITiCSE -WGR '13)*. ACM, New York, NY, USA, 1-14.

7. Kato Mivule and Claude Turner, "An Investigation of Data Privacy and Utility Preservation Using KNN Classification as a Gauge", International Conference on Information and Knowledge Engineering (IKE 2013), July 22-25, Pages 203-204, Las Vegas, NV, USA.
8. Kato Mivule, Darsana Josyula, and Claude Turner, "Data Privacy Preservation in Multi-Agent Learning Systems", The Fifth International Conference on Advanced Cognitive Technologies and Applications – COGNITIVE 2013, May 27 - June 1, 2013, Valencia, Spain.
9. Kato Mivule, Claude Turner, Soo-Yeon Ji, "Towards A Differential Privacy and Utility Preserving Machine Learning Classifier", *Procedia Computer Science*, 2012, Pages 176-181.
10. Kato Mivule, Claude Turner, "Applying Data Privacy Techniques on Published Data in Uganda", *Proceedings of the 2012 International Conference on e-Learning, e-Business, Enterprise Information Systems, and e-Government (EEE 2012)*, Pages 110-115.
11. Kato Mivule and Claude Turner (2012), "A Comparative Analysis of Data Privacy and Utility Parameter Adjustment, Using Machine Learning Classification as a Gauge", *Procedia Computer Science*, Vol 20, pp. 414-419
12. Claude Turner, Anthony Joseph, Murat Aksu, and Heather Langdon (2011), "The Wavelet and Fourier Transforms in Feature Extraction for Text-Dependent, Filterbank-Based Speaker Recognition," *Procedia Computer Science*, vol. 6, no. 0, pp. 124-129
13. Anthony Joseph, M. Larrain, and Claude Turner, "Forecasting Purchasing Managers' Index with Compressed Interest Rates and Past Values," *Procedia Computer Science*, vol. 6, no. 0, pp. 213-218, 2011.
14. Claude F. Turner, Blair Taylor, and Siddharth Kaza, "Security in computer literacy," in *Proceedings of the 42nd ACM technical symposium on Computer science education - SIGCSE '11*, 2011
15. Claude Turner, Anthony Joseph and Dwight Richards (2010) "An Empirical Study of a Wavelet-Neural Network Based Approach for Forensic Speaker Recognition with Cross Channel Data," *Intelligent Engineering Systems Through Artificial Neural Networks*, Vol.

16. Claude Turner and Anthony Joseph, (2010) "Relative Forecasting of Aggregate Inventory to Sales Ratios," Intelligent Engineering Systems Through Artificial Neural Networks, Vol. 20
17. Claude Turner, "Efficiency in Computing Correlation Matrix of Wavelet Coefficients by Exploiting Index Structure", Proceedings of the 2010 World Congress in Computer Science, Computer Engineering and Applied Computing (Worldcomp 2010), Las Vegas, Nevada, USA, July 12-15
18. Claude Turner, Jidé Odubiyi, and Mike O'Leary, "A Cross-Institutional Faculty Research Mentorship Program in Information Security and Assurance"; Proceedings of the 14th Colloquium for Information Systems Security Education, Baltimore Marriott Inner Harbor, Baltimore, Maryland, June 7 - 9, 2010
19. Siddharth Kaza, Blair Taylor, Harry Hochheiser, Shiva Azadegan, Mike O'Leary, Claude F. Turner, "Security across the Curriculum - Experiences in Effective Dissemination and Assessment Design"; Proceedings of the 14th Colloquium for Information Systems Security Education, Baltimore Marriott Inner Harbor, Baltimore, Maryland, June 7 - 9, 2010
20. Claude Turner, Harry Hochheiser, Jinjuan Feng, Blair Taylor, Jonathan Lazar, Azene Zenebe, Shiva Azadegan and Mike O'Leary, "Cooperative Information Assurance Capacity Building," Proceedings of the 13th Colloquium for Information Systems Security Education, Seattle, WA June 1 - 3, 2009
21. Claude Turner, "A Steganographic Computational Paradigm for Wireless Sensor Networks," Proceedings of the 6th international Conference on Innovations in Information Technology, Al Ain, United Arab Emirates, December 15-17, 2009
22. Claude Turner, (2009) *Multiresolution Analysis for Effective Dynamic Bandwidth Management*, Lambert Academic Publishing, Köln, Germany
23. Claude Turner and Anthony Joseph, (2009) "Extending Sales Forecast from Compressed Interest Rates with Wavelets and Neural Networks," Intelligent Engineering Systems Through Artificial Neural Networks, Vol. 19

24. Anthony Joseph and Claude Turner, (2009) "Variable Compression of Interest Rates in the Forecasting of Aggregate Sales," Intelligent Engineering Systems Through Artificial Neural Networks, Vol. 19
25. Claude Turner, Anthony Joseph, (2008) "Forecasting Sales from Discrete Wavelet Transformed Compressed Interest Rates," Intelligent Engineering Systems Through Artificial Neural Networks, Vol. 18
26. Anthony Joseph, Claude Turner, (2008) "Sales, Compressed Interest Rates, and Neural Network Predictions," Intelligent Engineering Systems Through Artificial Neural Networks, Vol. 18
27. Claude Turner, Dessa David, Michael Lewis, (2008) "Just Say Anything and I will Know Who You Are:A method to improve speaker recognition," Business Research Yearbook, Vol. XV 2008
28. Claude Turner and Anthony Joseph, (2007) "An Adaptive Methodology for Predicting the Upper Bound in WWW Traffic," Artificial Neural Networks in Engineering, Intelligent Engineering Systems Through Artificial Neural Networks, Vol. 17
29. Anthony Joseph and Claude Turner, (2007) "A Method to Secure More Reliable Online Business Transactions," Proceedings of The International Conference on Computing & e-Systems
30. Rolston M. Jeremiah and Claude Turner (2004) "A DCT-Based Multiresolution Analysis," Proceedings of International Conference on Signal and Image Processing (IASTED), Kauai, Hawaii
31. Claude F. Turner and Rolston M. Jeremiah, (2002) "The Independent Wavelet Bandwidth Allocation Algorithm," Proceedings IEEE Globecom 2002, Taipei, Taiwan

SELECTED TALKS AND PRESENTATIONS

1. Claude Turner, "A Wavelet and Mel-Frequency Cepstral Coefficients-Based Feature Extraction Method for Speaker Identification," Complex Adaptive Systems Conference, San Jose, CA, Nov. 2-4, 2015

2. Claude Turner, UWI/ABSA 2015 Conference, "A View of the Antigua and Barbuda Knowledge Economy, 2020," St. John's, Antigua, Aug. 6-7
3. Claude Turner and Carlene Turner, "A Model to Integrate Cybersecurity into K-12 Summer Camps through Experiential Learning," 19th Annual Colloquium for Information Systems Security, June 15-17, 2015, Las Vegas, NV
4. Rose Shumba, Kirsten Ferguson-Boucher, Elizabeth Sweedyk, Carol Taylor, Guy Franklin, Claude Turner, Corrine Sande, Gbemi Acholonu, Rebecca Bace, and Laura Hall. 2013. Cybersecurity, women and minorities: findings and recommendations from a preliminary investigation. ITiCSE 2013, the 18th Annual Conference on Innovation and Technology in Computer Science Education, Kent University, Canterbury, UK, Jul 1-3, 2013
5. Kato Mivule and Claude Turner, "An Investigation of Data Privacy and Utility Preservation Using KNN Classification as a Gauge", International Conference on Information and Knowledge Engineering (IKE 2013), July 22-25, Pages 203-204, Las Vegas, NV, USA.
6. Kato Mivule, Claude Turner, Soo-Yeon Ji, "Towards A Differential Privacy and Utility Preserving Machine Learning Classifier", Procedia Complex Adaptive Systems Conference, 2012, Pages 176-181.
7. *The Wavelet and Fourier Transforms in Feature Extraction for Text-Dependent, Filterbank-Based Speaker Recognition*," Complex Adaptive Systems Conference, Chicago, Illinois, Oct. 31-Nov. 2, 2011
8. *Security in Computer Literacy*, The 42nd ACM technical symposium on Computer science education - SIGCSE '11, Dallas, Texas, March 9-12, 2011
9. *A Cross-Institutional Faculty Research Mentorship Program in Information Security and Assurance*, The 14th Colloquium for Information Systems Security Education (CISSE 2010), June 7-9, 2010
10. *An Empirical Study of a Wavelet-Neural Network Based Approach for Forensic Speaker Recognition with Cross Channel Data*, ANNIE 2010, Nov. 1-3, 2010
11. *Cooperative Information Assurance Capacity Building*, 13th Colloquium for Information Systems Security Education (CISSE 2009), Seattle, WA June 1 - 3, 2009
12. *Integrating Usability and Accessibility in Information Assurance Education*. Poster presented at the Symposium On Usable Privacy and Security, Mountain View, CA, July 15-17, 2009.

13. *Forecasting Sales from Discrete Wavelet Transformed Compressed Interest Rates*, Artificial Neural Networks in Engineering (ANNIE) 2008, May 9-12, 2008
14. *Sales, Compressed Interest Rates, and Neural Network Predictions*, May 9-12, ANNIE 2008, 2008
15. *An Adaptive Methodology for Predicting the Upper Bound in WWW Traffic*, Artificial Neural Networks in Engineering, ANNIE 2007, Nov 12-14, 2007, St. Louis, Missouri
16. *A Method to Secure More Reliable Online Business Transaction*, The International Conference on Computing & e-Systems, TIGERA 2007, March 12-15, 2007, Hammamet Beach, Tunisia

WORK WITH STUDENTS

- Coach/Faculty advisor for the Norfolk State University Cyber Defense team, August 2014-Present
- Coach/Faculty advisor for the Bowie State University Cyber Defense team, founded in February 2010
- Coach/Faculty Advisor for the Bowie State University Robotics team, founded September 2010
- Advised over 150 undergraduate students in Computer Science and Computer Technology since 2005
- Advised 2 doctoral students who successfully defended their dissertation and graduated

PROFESSIONAL SERVICE AND LEADERSHIP

- Lead organizer and Chair of the Second Workshop on Integrating Usability and Accessibility into Information Assurance Education, Bowie State University, Bowie, MD, August 2010
- Lead organizer and Chair of an NSF-funded workshop on faculty research mentorship in Information Assurance, Towson University, Towson, MD, April 2010
- Lead organizer and Chair of the First Workshop on Integrating Usability and Accessibility into Information Assurance Education, Bowie State University, Bowie, MD, March 2009

- Lead organizer and Chair of the Maryland Alliance for Information Security and Assurance (MAISA) workshop on faculty research mentorship in Information Assurance, Towson University, Towson, MD, March 2009
- Session Chair in the 2009 Artificial Neural Networks in Engineering (ANNIE) conference, Missouri, USA, November 2009

UNIVERSITY SERVICE

- Hiring Committee, IA-REDI, March 2016: Reviewed resumes, conduct interviews and analyzed of applications to determine the best candidate
- University Curriculum Committee, AY 2011-2012 & AY 2012-2013
- College Curriculum Committee, AY 2011-2012 & AY 2012-2013
- Department Curriculum Committee, AY 2011-2012 & AY 2012-2013
- USM Cybersecurity Articulation Committee, AY 2012-2013
- Collaborated with the Dean of the College of Arts and Sciences and other BSU colleagues to organize a team of students and faculty to host an exhibit at the USA Science and Engineering Festival, Washington, DC, April 28-29, 2012
- Led the effort to establish Bowie State University as an NSA and DHS designated Center of Academic Excellence in Information Assurance Education (CAE-IAE), June, 2011.
- Led the collaborative course mapping activities that culminated in June, 2009 with BSU meeting the prerequisites to apply for the prestigious NSA and DHS designation of Center of Academic Excellence in CAE-IAE.
- Lead organizer and chair of two major cyber-security related NSF funded workshops that hosted renowned keynote speakers from Carnegie Mellon University and NIST during the summer 2009 and 2010, respectively. The event brought increased visibility to BSU and provided useful information to students, faculty and staff at BSU and beyond.
- University Council on Information Technology (UCIT), AY2008-2009, AY2009-2010
- Chair: Department Search Committee, AY2012-2013
- Director, Center for Cybersecurity and Emerging Technologies, 2011-Present
- Organize a workshop for faculty, students and NSA cybersecurity experts to exchange ideas about research, cybersecurity education and collaboration with NSA, AY2012-2013
- Assist with recruitment and preparation of students for NSA internship opportunities, AY2012-2013
- Served on a committee to recruit an administrative assistant for IA-REDI, Feb-Mar, 2016

ORGANIZATIONS AND HONORS

- University VIP Grants Award, Bowie State University (2009)
- University VIP Grants Award, Bowie State University (2008)

- Member of the Institute of Electrical and Electronics Engineers (IEEE), Inc.
- Member of the Association for Computing Machinery (ACM)

PROFESSIONAL REFERENCES

References will be provided upon request.