

Brian M. Powell

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EDUCATION

- Ph.D., Computer Science** **2018**
West Virginia University, Morgantown, West Virginia
Dissertation: Enhancing Online Security with Image-based CAPTCHAs
Advisor: Afzel Noore, Ph.D.
- M.S., Computer Science** **2006**
West Virginia University, Morgantown, West Virginia
- B.A., Computer Science** **2003**
Malone College (now Malone University), Canton, Ohio

TEACHING

- Teaching Assistant Professor** **2018-Present**
Lane Department of Computer Science & Electrical Engineering, West Virginia University
- Taught CS 293B: Intro to Python Programming and team-taught CS 560: Big Data Engineering during the Fall 2019 semester.
 - Taught CS 350: Computer System Concepts during the Spring 2019 semester.
 - Team-taught CS 493N/CS 591L: Big Data Engineering during the Fall 2018 semester.
- Adjunct Lecturer** **2019-Present**
Department of Management Information Systems, West Virginia University
- Developed and taught CYBR 591A: Business Network Security during the Spring 2019 semester.
- Computer Science 101/293A/293B Coordinator** **2004-Present**
Lane Dept. of Computer Science & Electrical Engineering, West Virginia University
Teaching Assistant Professor, August 2018-Present
Lecturer, May 2018-August 2018
Graduate Teaching Assistant, August 2004-May 2018
- Manage large CS 101 service course with over 1,000 students and up to 29 sections per semester.
 - Oversee development and offering of new courses on Python programming (CS 293B) and data analytics with R and Tableau (CS 293A).
 - Coordinate development of textbooks, assignments, student resources, and lecture content.
 - Hire and supervise course instructors, as well as student proctors enrolled in CS 490: Teaching Practicum course.
 - Prepared successful proposal to list CS 101 in WVU General Education Curriculum, supported 5-year GEC audit, and transitioned course to General Education Foundations.
 - Prepared new course proposal for Faculty Senate approval and GEF listing of CS 293B.
 - Maintain 125 computers and accompanying servers to support course operation.
 - Developed online course management system and created software to detect academic integrity violations.

Computer Science 101 Instructor**2003-2004**

Lane Dept. of Computer Science & Electrical Engineering, West Virginia University
Graduate Teaching Assistant, August 2003-August 2004

- Primary instructor for 2 sections (approximately 100 students) each semester.
- Developed course content including homework assignments.
- Assisted with computer maintenance including security policy implementation.

PUBLICATIONS & PRESENTATIONS**Journal Publications**

B. M. Powell, G. Goswami, M. Vatsa, R. Singh, and A. Noore, "fgCAPTCHA: Genetically Optimized Face Image CAPTCHA," *IEEE Access*, vol. 2, pp. 473–484, Apr. 2014.

G. Goswami, **B. M. Powell**, M. Vatsa, R. Singh, and A. Noore, "FR-CAPTCHA: CAPTCHA based on Recognizing Human Faces," *PLoS ONE*, vol. 9, no. 4, p. e91708, Apr. 2014.

G. Goswami, **B. M. Powell**, M. Vatsa, R. Singh, and A. Noore, "FaceDCAPTCHA: Face Detection based Color Image CAPTCHA," *Future Generation Computer Systems*, vol. 31, pp. 59–68, Feb. 2014.

B. M. Powell, A. C. Day, R. Singh, M. Vatsa, and A. Noore, "Image-based face detection CAPTCHA for improved security," *International Journal of Multimedia Intelligence and Security*, vol. 1, no. 3, pp. 269–284, 2010.

Conference Presentations

B. M. Powell, E. Kalsy, G. Goswami, M. Vatsa, R. Singh, and A. Noore, "Attack-Resistant aiCAPTCHA using a Negative Selection Artificial Immune System," at *IEEE 38th Symposium on Security and Privacy, 2nd Workshop on Bio-inspired Security, Trust, Assurance, and Resilience*, San Jose, CA, May 2017.

B. M. Powell, A. Kumar, J. Thapar, G. Goswami, M. Vatsa, R. Singh, and A. Noore, "A Multibiometrics-based CAPTCHA for Improved Online Security," at *IEEE 8th International Conference on Biometrics: Theory, Applications and Systems*, Niagara Falls, NY, Sept. 2016.

G. Goswami, R. Singh, M. Vatsa, **B. M. Powell**, and A. Noore, "Face Recognition CAPTCHA," at *IEEE 5th International Conference on Biometrics: Theory, Applications and Systems*, Washington, DC, Sept. 2012.

Conference Posters

B. M. Powell, R. Singh, M. Vatsa, and A. Noore, "Poster: Adaptcha: An Adaptive CAPTCHA for Improved User Experience," at *38th IEEE Symposium on Security and Privacy*, San Jose, CA, May 2017.

SERVICE**The Honor Society of Phi Kappa Phi****2016-Present**

West Virginia University Chapter
Chapter President, 2017-Present
Chapter Secretary-Treasurer, 2016-2017

oSTEM: Out in Science, Technology, Engineering, and Mathematics **2018-Present**

West Virginia University Chapter
Faculty Co-Advisor

WVU Statler College Computer Committee

2018-Present

Lane Department of Computer Science & Electrical Engineering Representative

Reviewer

- *IEEE Access*
- *IEEE Transactions on Information Forensics and Security*

HONORS AND AWARDS

- West Virginia University Foundation Distinguished Doctoral Fellowship, 2005
- Malone College Outstanding Graduate in Computer Science, 2003

MEMBERSHIPS

Professional Organizations

- American Society for Engineering Education (ASEE)
- Association for Computing Machinery (ACM)

Honor Societies

- The Honor Society of Phi Kappa Phi
- Upsilon Pi Epsilon (UPE) Honor Society
- Sigma Zeta Science & Mathematics Honor Society