

# **Brian M. Powell**

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## **EDUCATION AND PROFESSIONAL EXPERIENCE**

### **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

### **EMPLOYMENT HISTORY**

**West Virginia University, Morgantown, West Virginia**  
Lane Department of Computer Science & Electrical Engineering  
*Teaching Associate Professor*, 2025 to present  
*Teaching Assistant Professor*, 2018 to 2025  
*Lecturer*, 2018  
*Graduate Teaching Assistant*, 2003-2018

Department of Management Information Systems  
*Adjunct Lecturer*, 2019-2020

**Allegheny Geotourism, Morgantown, West Virginia**  
*Owner*, 2014-2018

**In the Round Design Group, Canton, Ohio**  
*Developer/Systems Administrator*, 2002-2003

## **FELLOWSHIPS, HONORS, AWARDS, AND NOMINATIONS**

### **Fellowships Received**

#### **Cloud Analytics Faculty Fellows (2026)**

West Virginia University Office of the Provost, Morgantown West Virginia, and  
West Virginia High Technology Foundation, Fairmont, West Virginia

#### **West Virginia University Foundation Distinguished Doctoral Fellowship (2005)**

West Virginia University, Morgantown, West Virginia

## Awards Received

### **Statler College Excellence in Cultivating Engagement and Belonging Award (2025)**

West Virginia University, Morgantown, West Virginia  
Received by Lane Department Community, Values, and Engagement Committee (chair of committee)

### **Statler College Outstanding Educator of the Year Award (2023)**

West Virginia University, Morgantown, West Virginia

### **Statler College Excellence in Diversity, Equity, and Inclusion Award (2023)**

West Virginia University, Morgantown, West Virginia

### **Malone College Outstanding Graduate in Computer Science (2003)**

Malone College (now Malone University), Canton, Ohio

## Award Nominations

### **Statler College Educator of the Year Award (2023)**

West Virginia University, Morgantown, West Virginia

# TEACHING

## COURSES TAUGHT

<b>Course Number</b>	<b>Title</b>	<b>Semester</b>	<b>Enrollment</b>
CS 101	Intro to Computer Applications	Summer 2025	36
		Summer 2024	55
		Summer 2023	22
		Summer 2022	19
		Summer 2021	31
CS 110	Introduction to Computer Science	Spring 2025	50
		Spring 2024	98
		Spring 2023	66
		Spring 2022	68
		Fall 2020	63
CS 111	Introduction to Data Structures	Summer 2022	45
		Summer 2021	32
CS 293B	Intro to Python Programming	Fall 2019	25
CS 293C	Intro to Data Science	Spring 2020	7
CS 350	Computer System Concepts	Fall 2025	104
		Summer 2025	10
		Spring 2025	98
		Fall 2024	105

Course Number	Title	Semester	Enrollment
		Summer 2024	16
		Spring 2024	103
		Fall 2023	92
		Summer 2023	10
		Spring 2023	70
		Fall 2022	100
		Spring 2022	75
		Fall 2021	75
		Spring 2021	97
		Spring 2020	65
		Spring 2019	77
CS 460 (team-taught) <i>formerly CS 493C</i>	Introduction to Big Data Engineering	Fall 2025	34
		Fall 2024	30
		Fall 2023	30
		Fall 2022	12
		Fall 2021	5
		Fall 2019	4
		Fall 2018	9
CS 560 (team-taught) <i>formerly CS 591L</i>	Big Data Engineering	Fall 2025	13
		Fall 2024	18
		Fall 2023	18
		Fall 2022	11
		Fall 2021	23
		Fall 2020	10
		Fall 2019	17
		Fall 2018	16
CYBR 535 <i>formerly CYBR 591A</i>	Business Network Security	Spring 2020	22
		Spring 2019	11

## COURSES COORDINATED OR SUPERVISED

### CS 101: Intro to Computer Applications

- Coordinate all Morgantown- and Beckley-based sections of CS 101.
- Hire, mentor, and supervise GTAs and lecturers.

- Develop and maintain shared course materials including in-class projects, homeworks, exams, presentations, videos, Supplemental Content, and website.
- Build course shells on CS101 website, in eCampus, and in MyLab IT for each instructor.
- Teach class sections and assist in the C S101 Learning Center as needed.
- Process MyLab Lessons and MyLab Extra Credit Projects grades throughout the semester.
- Respond to student complaints and concerns.
- Review academic integrity violations and grade appeals.
- Analyze instructor and course performance based on comments and scores from SEIs and student surveys to look for ways to improve student outcomes.
- Maintain course IT infrastructure including two computer labs, servers, and custom course management software.

<b>Semester</b>	<b>CS 101 Sections</b>	<b>Supervised GTAs/Lecturers</b>	<b>Enrollment</b>
Fall 2025	4	3	272
Spring 2025	6	4	351
Fall 2024	6	4	445
Spring 2024	5	4	450
Fall 2023	11	6	541
Summer 2023	2	1	55
Spring 2023	11	6	520
Fall 2022	14	7	433
Summer 2022	2	1	44
Spring 2022	14	7	571
Fall 2021	17	8	586
Summer 2021	4	1	65
Spring 2021	16	8	682
Fall 2020	17	10	846
Summer 2020	5	5	93
Spring 2020	21	11	976
Fall 2019	24	12	1,029
Summer 2019	6	4	122
Spring 2019	19	11	882
Fall 2018	21	12	975
Summer 2018	6	6	149

### CS 110L: Intro-Computer Science Lab

- Supervised the lab GTAs for sections of CS 110 and CS 110L labs associated with CS 110 lecture sections.
- Met with lab GTAs on a weekly basis to discuss progress in the lecture and lab sections and to select appropriate new lab assignments.

Semester	CS 110L Sections	Supervised GTA/Workers	Enrollment
Spring 2025	4	2	118
Spring 2024	4	2	165
Spring 2023	2	1	66
Spring 2022	2	1	68
Fall 2020	2	1	63

### CS 293B: Intro to Python Programming

- Oversaw the creation of a new service course based on Python.
- Monitored the section instructor, including holding ongoing meetings about the status of the course.
- Developed, updated, and maintained course materials including in-class projects, homeworks, exams, and presentations.
- Taught class sections and assisted in the CS 293B Learning Center as needed.
- Reviewed academic integrity violations.
- Analyzed instructor and course performance based on comments and scores from SEIs and CS 293B course survey.
- Prepared course portfolio and end-of-semester documentation.

Semester	CS 293B Sections	Supervised GTAs/Lecturers	Enrollment
Summer 2019	1	1	3
Spring 2019	1	1	25
Fall 2018	1	1	44
Summer 2018	1	1	3

### CS/CSEE 490: Teaching Practicum

- Recruit and schedule undergraduate student assistants (proctors).
- Work with section instructors and CS 101 Learning Center staff to address proctor performance issues.
- Evaluate proctor performance and issue final grades.

Semester	CS/CSEE 490 Sections	Enrollment
Summer 2025	1	2
Spring 2025	3	6
Fall 2024	2	3

Semester	CS/CSEE 490 Sections	Enrollment
Spring 2024	4	11
Fall 2023	1	4
Spring 2023	3	7
Fall 2022	3	7
Spring 2022	3	0
Fall 2021	3	0
Spring 2021	3	1
Fall 2020	3	1
Spring 2020	3	10
Fall 2019	2	26
Spring 2019	2	28
Fall 2018	2	34

### CSEE 491: Professional Field Experience

- Approve and evaluate student internships and co-op experiences, primarily for Computer Science and Electrical Engineering students.

Semester	CSEE 491 Sections	Enrollment
Fall 2025	1	9
Summer 2025	1	2
Spring 2025	1	3
Fall 2024	1	1
Spring 2024	1	1

## RESEARCH

### PUBLICATIONS

#### Journal Papers

1. **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.
2. 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.
3. 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.

4. **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 Proceedings and Papers

1. **B. M. Powell**, E. Kalsy, G. Goswami, M. Vatsa, R. Singh, and A. Noore, “Attack-Resistant aiCAPTCHA using a Negative Selection Artificial Immune System,” in *Proc. IEEE 38th Symposium on Security and Privacy, 2nd Workshop on Bio-inspired Security, Trust, Assurance, and Resilience*, San Jose, CA, May 2017.
2. **B. M. Powell**, A. Kumar, J. Thapar, G. Goswami, M. Vatsa, R. Singh, and A. Noore, “A Multibiometrics-based CAPTCHA for Improved Online Security,” in *Proc. IEEE 8th International Conference on Biometrics: Theory, Applications and Systems*, Niagara Falls, NY, Sept. 2016.
3. G. Goswami, R. Singh, M. Vatsa, **B. M. Powell**, and A. Noore, “Face Recognition CAPTCHA,” in *Proc. IEEE 5th International Conference on Biometrics: Theory, Applications and Systems*, Washington, DC, Sept. 2012.

### Conference Posters

1. M. T. Ashraf, M. Y. Ahamed, **B. M. Powell**, K. C. Dey, and D. Adjero, “Public Perceptions Towards Autonomous Vehicle Technology: A Sentiment Analysis Using Twitter Data and Natural Language Processing Models.” Presented at the *102nd Annual Meeting of the Transportation Research Board*, Washington, DC, Jan. 2023. Paper Number TRBAM-23-04110.
2. **B. M. Powell**, R. Singh, M. Vatsa, and A. Noore, “Adaptcha: An Adaptive CAPTCHA for Improved User Experience.” Presented at the *38th IEEE Symposium on Security and Privacy*, San Jose, CA, May 2017.

## SERVICE

### SERVICE TO THE UNIVERSITY

#### Faculty Senate

*Senator for Statler College Constituency, 2024 to Present*

#### Faculty Senate Academic Technology Committee

*Chair-Elect, 2025 to Present*

#### Faculty Senate Shared Governance Committee

*Member, 2025 to Present*

#### Faculty Senate Student Recruitment and Retention Committee

*Member, 2025 to Present*

#### Faculty Senate Student Rights and Responsibilities Committee

*Member, 2024 to 2025*

#### Artificial Intelligence Task Force

*Task Force Member, 2023 to Present*

**The Honor Society of Phi Kappa Phi, West Virginia University Chapter #181**

*Chapter President, 2017 to present*

*Chapter Secretary-Treasurer, 2016-2017*

**IEEE, WVU Beta Rho Chapter**

*Faculty Advisor, 2020 to present*

**oSTEM: Out in Science, Technology, Engineering, and Mathematics, WVU Chapter**

*Faculty Advisor, 2018 to present*

**Spectrum**

*Faculty Advisor, 2020-2024*

**SERVICE TO THE COLLEGE**

**Statler College Undergraduate Academic Affairs Committee**

*Committee Chair, 2023 to 2025*

*Computer Science Representative, 2021 to 2024*

*Lane Department Representative, 2024 to 2025*

**Statler College Academic Engagement Committee**

*Chair, 2025 to Present*

*Lane Department Representative, 2025 to Present*

**Statler College Academic Diversity Committee (formerly Statler College Diversity, Equity and Inclusion Committee)**

*Lane Department Representative, 2019 to 2025*

**Statler College Computer Committee**

*Committee Chair, 2019-2020*

*Lane Department Representative, 2018-2021*

**Department Chair Search Committee**

*2019-2020 Lane Department Chair Search Committee Member, 2019-2020*

*2020-2021 Lane Department Chair Search Committee Member, 2020-2021*

**SERVICE TO THE DEPARTMENT**

**Computer Science Undergraduate Curriculum Committee**

*Committee Chair and CS Undergraduate Program Coordinator, 2021 to present*

*Member, 2018 to present*

**Lane Department Community, Values, and Engagement Committee**

*Committee Chair, 2024 to Present*

**Faculty Search Committee**

*CPE/CS Teaching Faculty Search Committee Member, 2019-2020*

*SENG Teaching Faculty Search Committee Member, 2022*

*CS/CYBE Teaching Faculty Search Committee Chair, 2024 to 2025*

*CS Teaching Faculty Search Committee Chair, 2025 to Present*

## **SERVICE TO THE PROFESSION**

### **Reviewer**

- *IEEE Access*
- *IEEE Transactions on Information Forensics and Security*
- *The Journal of Supercomputing*
- *Annual Meeting of the Transportation Review Board*

## **MEMBERSHIPS**

### **PROFESSIONAL ORGANIZATIONS**

- Institute of Electrical and Electronics Engineers (IEEE)
- American Society for Engineering Education (ASEE)

### **HONOR SOCIETIES**

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