

Aditya Johri

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Teaching Positions

Department of Information Sciences and Technology, *George Mason University, Fairfax, VA*

Professor August 2019 – Present
Associate Professor January 2014 – July 2019
Director, Engineering Education and Cyberlearning Laboratory (EECL) (<http://ist.gmu.edu/eecl>)

Department of Engineering Education, *Virginia Polytechnic Institute and State University, Blacksburg, VA*

Associate Professor (Tenured) August – December 2013
Assistant Professor August 2007 – July 2013

Academic Degrees

Ph. D. Stanford University, Palo Alto, CA July 2007
Learning Sciences and Technology Design

MFA George Mason University, Fairfax, VA May 2019
Creative Writing (Nonfiction)

M.S. Georgia Institute of Technology, Atlanta, GA August 2002
Information, Design, and Technology

M.A. University of Georgia, Athens, GA August 2000
Mass Communication

Bachelor of Engineering, Delhi College of Engineering, Delhi, India June 1998
Mechanical Engineering

Selected Teaching Related Honors and Awards

- Fulbright-Nokia Distinguished Chair in Information and Communication Technologies Aug. – Dec. 2021.
- Fall 2020 Mason Core Committee Recognition for Outstanding Teaching of a Mason Core Course in Information Technology Ethics.
- Best Paper Award, International Conference of Web-based Learning (ICWL) 2019, Magdeburg, Germany, September 2019 (with B. Chowdhury, D. Kafura & V. Lohani).
- Nominated for 2017 Career Connection Faculty Award (Awarded by University Career Services; student self-nominate faculty for this award).
- AERA Division I Outstanding Research Publication Award 2015 for *Cambridge Handbook of Engineering Education Research* (jointly with Barbara M. Olds), April 2015.
- 2013 Virginia Tech's Center for Innovation in Learning's XCaliber Certificate of Excellence for a team making exemplary contributions to technology-enriched learning (jointly with Akshay Sharma).
- Invited participant in National Academy of Engineering's Frontiers of Engineering Education (FOEE) Symposium, Nov. 13-16, 2011, Irvine, CA.
- National Science Foundation Early CAREER Award (Engineering Education Division), 2009-2014.

Supervision of Graduate and Undergraduate Students

Ph.D. and M.S. Advisee

1. Andrea Goncher (Ph.D., Engineering Education; Graduated: December 2012); *Thesis*: Contextual Shaping of Student Design Practices: The Role of Constraint in First-Year Engineering Design
2. Hon Jie Teo (Ph.D., Engineering Education; Graduated: August 2014; co-advised with Vinod Lohani)
Thesis: Knowledge Creation Analytics for Online Engineering Learning
3. Stephanie Kusano (Ph.D., Engineering Education) (*Virginia Tech*) (Co-advised with Lisa McNair; Graduated: December 2014) *Thesis*: Beyond the Classroom: Understanding the Educational Significance of Non-Curricular Engineering Design Experiences.

4. Bushra Chowdhury (Ph.D., Engineering Education; Co-Chair: Vinod Lohani) (Virginia Tech); Topic: Collaborative Computational Thinking; Dissertation Defended: July 6, 2017
5. Omaira Almatrafi (Ph.D. IT) (Defended: October 10, 2018); Title: Analyzing MOOC Forums: Developing Models to Support Instructors' Monitoring of Learners' Post.
6. Hieu-Trung Le (Ph.D. IT) (Defended: 7/26/2019); Topic: Meeting Cybersecurity Education Challenges: A Data Analytics Approach for Continuous Learning.
7. Habib Karbasian (Ph.D. IT) (Co-Advisor: Hemant Purohit) (Defended: 4/3/2020), Topic: Realtime Analytics for Resource Mobilization in Engineering Diversity Hashtag Campaigns.
8. Ashish Hingle, Ph.D. in Information Technology (Concentration: IST) (Current)
9. Amani Alhusaiyen, Ph.D. in Information Technology (Concentration: IST) (Current)
10. Raktim Mitra (Chair, Co-Chair: H. Rahmandad), M.S. Thesis, Industrial & Systems Engineering; Graduated August 2011)
11. Ashwin Khandeparker (Chair, M.S. Project, Computer Science; Graduated May 2011)

Student Supervision/Co-Supervision & Mentorship on Funded Projects at GMU (Served as PI/NSF REU Mentor)

1. Areej Ali (B.S. IT, NSF REU, Summer 2021) - *Case Study of AI in Agriculture*
2. Brett Strosnider (B.S. IT, NSF REU, Summer 2021) - *Analysis of Twitter Data Related to AI Ethics*
3. Stefano Murro (NSF REU, Summer 2021) - *Analysis of Qualitative Data on IT Ethics*
4. James Condo (NSF REU, Summer 2021) - *Analysis of Qualitative Data on IT Ethics*
5. Sarish Zahid (B.S. IT, NSF REU, Summer 2021) - *Case Study of AI in Agriculture*
6. Ghaalayah Brown (NSF REU, Summer 2021) - *Analysis of Twitter Data Related to AI Ethics*
7. Pearl Matibe (NSF REU, Summer 2021) - *Case Study of Global AI Ethics*
8. Victoria Dillriott (Youngstown State, NSF REU, Summer 2021) - *Analysis of Qualitative Data on IT Ethics*
9. Venkata Ramana Pola (M.S. Data Analytics Engineering), Fall 2019 - Spring 2020
10. Byron Biney (Swarthmore College) (REU, Summer 2018)
11. Olivia Kruse (Junaita College) (REU, Summer 2018)
12. Lorraine M. Drumheller (Ph.D. Higher Education), Fall 2017- Spring 2018, *Data Science Education*
13. Daniel Ruiz (B.S. Computer Engineering, VCU, REU) (Summer - Fall 2017)
14. Cassie Heyman-Schrum (William and Mary, REU) (Summer - Fall 2017)
15. Venkata Chaitanya Neelamaraju (M.S. ECE) (Spring 2017)
16. Saif Ahmed (M.S. DAE), 2014-2015 - *Comparative Study of Technical/Non-Technical Forums*
17. Ben Gelman (B.S. & M.S. C.S., NSF REU/GRA) 2014-2016 - *Analysis of Online Community Learning*
18. Chris Beckley (B.S. C.S., NSF REU) 2014 - *Analysis of Scratch Online Community; Job: Lockheed Martin*
19. Mack Sweeney (B.S. C.S., NSF REU) 2014 - *DIA2*
20. Qingzhe Li (Ph.D. C.S.) 2014 - *Android App Development*
21. Matt Revelle (Ph.D. C.S.) 2014- *DIA2*
22. Heba Elsherbeeney (PhD. Ed) 2014 - *TILES: Informal Engineering Learning Assessment Instrument*
23. Kathy Matson (PhD. Ed) 2014 - *TILES: Informal Engineering Learning Literature Review*
24. Laura Tokarczyk (PhD. Ed) 2014 - *TILES: Informal Engineering Learning Assessment Instrument Development*
25. Ashley Sgandurra (M.A. Ed) 2014 - *TILES: Informal Engineering Learning Assessment Instrument Development*
26. Xingya Xu (PhD. Ed) (Fall 2015 - Spring 2016) - *TILES: Informal Engineering Learning*
27. Rajat Handa (M.S. DAE) (Fall 2016 - Spring 2017)

Teaching Experience (Courses marked * are new offerings or substantial redesign)

Graduate

Instructor	AIT 602: Research Methods in IST* (7 students)	Spring 2018
Instructor	AIT 602: Research Methods in IST*	Spring 2016
Instructor	AIT 601: Foundations of IST* (8 Enrolled+2 Auditors)	Fall 2015
Instructor	AIT 510: Learning Analytics* (3 Enrolled+3 Auditors)	Fall 2014

Instructor	ENGE 5984: Ethnographic and Qualitative Research (10 students)	Spring 2013
Instructor	ENGE 5014: Foundations of Engineering Education (13 students)*	Fall 2012
Instructor	ENGE 5014: Foundations of Engineering Education (24 students)	Fall 2011
Instructor	ENGE 5984: Global Engineering Work Practices (6 students)	Spring 2010
Instructor	ENGE 5984: Ethnographic & Qualitative Research (10 students)*	Fall 2009
Instructor	ENGE 5984: Global Engineering Work Practices (10 students)*	Spring 2009
Co-Instructor	ENGE 5014: Foundations of Eng Education* (10-12 students)	Fall 2008
Co-Instructor	ENGE 5014: Foundations of Eng Education* (10-12 students)	Spring 2008
Co-Instructor	ED211: Human-Computer Interaction in Education*(Stanford) (10 students)	Fall 2004

Undergraduate

Instructor	IT 304: IT in the Global Economy* (~40 students/section) Summer (2021) (1 section) Spring 2021 (1 section), Fall 2020* (2 sections), Fall 2019 (4 sections), Fall 2018 (2 sections), Spring 2018 (2 sections), Fall 2017 (1 section), Spring 2017 (2 sections), Fall 2016 (1 section)	
Co-Instructor	ENGE/ID 2984: Engineering Design for Empowerment* (14 students)	Fall 2012
Instructor	ENGE 1214: Engineering Design Transitions (Blended; 5 Students)	Fall 2012
Instructor	ENGE 1114: Engineering Design (400 students)	Spring 2012
Co-Instructor	ENGE/CS/ID 2984: Eng Design for Social Development* (20 students)	Fall 2011
Instructor	ENGE 1114: Engineering Design* (408 students)	Spring 2011
Co-Instructor	ENGE 1024: Engineering Explorations (450 students)	Fall 2007

Courses Developed

Undergraduate

IT 304: IT in the Global Economy
ENGE 2984: Engineering for Social Development
ENGE 1114: Engineering Design

Graduate

AIT 501: Learning Technologies & Learning Analytics
AIT 601: Foundations of IST/AIT 602: Research Methods in IST
VSE 501: Fundamentals of Computing, Engineering & Technology Education
VSE 502: Teaching and Learning in Computing, Engineering & Technology
ENGE 5984/ENGE 5714: Global Engineering Work Practices
ENGE 5984/ENGE 6714: Ethnographic and Qualitative Research
ENGE 5014: Foundations of Engineering Education

Selected Teaching Related Service to the Institution and the Profession

Institutional Service

George Mason University

Member, Mason Core Taskforce for Just Society Course Fall 2021
Member, Research Committee, Presidential Taskforce on Anti-Racism and Inclusiveness 2020-2021
Member, Anti-Racist and Inclusive Teaching (ARIT) Resource Development Team Spring 2021
VSE Representative to the Faculty Senate, elected position, Fall 2017-Spring 2021
Member, University Research Advisory Committee (2020-2021)
Member, University Committee on Technology Policy (Fall 2019-Spring 2021)
Member, University Committee on Adult Learning and Executive Education (Fall 2017-Spring 2019)
Member, Writing Across the Curriculum (2014-2015)
Department Chair (2014-2016), Co-led effort to create a Ph.D. concentration and introduce Ph.D. level courses within the IT PhD program (2014-2016); Resulted in a new concentration for the department: Information Science and Technology; Spearheaded the Academic Program Review (APR) for the department and ABET evaluation (2015)

Teaching Related Service to the Profession

Editorial Advisory Board, Advances in Engineering Education; Engineering Studies
Conference Reviewing (Teaching Related): International Conference of Learning Sciences (ICLS); International Conference of Computer-Supported Cooperative Learning (CSCL); Annual Conference of American Society for

Engineering Education (ASEE); American Education Research Association Conference (AERA).

Journals (Ad-hoc reviewer) (Teaching Related): Journal of Engineering Education; International Journal of Engineering Education; Advances in Engineering Education; European Journal of Engineering Education; Studies in Engineering Education; The Journal of the Learning Sciences

Selected Teaching Related Grants (at GMU) (Total external funding:\$34M; personal share: \$4M)

External Grants (Selected) (Total: PI on 15 NSF grants; co-PI on 5 NSF grants)

NSF-DUE-2044347: Studying Student Support and Success Experiences to Improve Persistence of Nontraditional Students in Engineering. Role: Senior Personnel (External); PI: Cory Brozina, YSU, (2021-2024)

NSF-DUE-1937905: Situated Algorithmic Thinking: Preparing the Future Computing Workforce for Ethical Decision-Making through Interactive Case Studies. Role: PI; Co-PIs: H. Rangwala, A. Monea (2020-2022)

NSF-DUE-IUSE (1712129): Deeper Learning of Data Science (DLDS): Studying Real-world Experiences of Engineering Professionals to Prepare the Future Workforce. Role: PI; (2017-2020)

NSF-BIGDATA: IA: DKA (IIS#1447489): Collaborative Research: Learning Data Analytics: Providing Actionable Insights to Increase College Student Success; PI: H. Rangwala; Co-PIs: Aditya Johri, J. Lester; (2014-2018)

NSF-EEC (#1424444): TILES: Trajectories of Informal Learning Among Engineering Students. PI. Johri, A. Co-PIs: Bland, L. & Islam, K. 2014-2018.

Internal Grants

Provost Curriculum Improvement Grant in “Computing, Engineering, and Science Education” w/ Jill Nelson et al. Faculty Learning Community (FLC) in “Engineering Education,” Stearns Center for Teaching and Learning, PI: Aditya Johri, Co-PI: Jaime Lester, Nada Dabbagh, Margret Hjalmarson.

Teaching Related Professional Development and Workshops

- Stearns Center’s Online Undergraduate Program Redesign (SOUPR) experience and Online Course Redesign Academy (OCRA) 2019-2020 for IT 304 (redesigned course to be piloted in Fall 2020)
- Participation in Online Course Review 2018-2019 for IT 304
- Respondus and Webcam Training for Blackboard 2016-2017
- GMU ITSIL conference participation and presentations (multiple years)
- NSF Ethics of Big Data and Education Workshop, July 2015, Arlington, VA
- Blackboard Training 2014
- NSF Big Data and Education Workshop, March 2014, Fairfax, VA
- NSF Workshop on MOOCs and Learning Analytics, Oct. 2013, Helsinki, Finland
- Spring 2010: FDI “Online Instructor Certificate; Courses: Effective Communication in the Online Course; Synchronous Communication: Centra; Asynchronous Communication: Adobe Presenter and Camtasia, and, Best Practices of Online Teaching).
- American Society for Engineering Education (ASEE) workshop on “Innovations in Engineering Education,” November 2008, Atlanta, GA.
- NSF Workshop “Thought Leaders Workshop on the Future of Engineering Education,” June 2008
- NSF Workshop “Cyberinfrastructure and Engineering Education,” Sept. 4-5, 2008, Arlington VA.

Selected Teaching Related Publications (*direct advisees/underlined authors directly funded)

Total Publications: 43 Journal Articles, 109 Refereed Conference Proceedings, 2 Co-authored Books, 2 Co-edited Books, 4 Co-edited/Edited Journal Special Issues & 11 Book Chapters. Google Scholar Profile: <http://bit.ly/1GIlyIT>

Books

Lester, J., Klein, C. Rangwala, H. & Johri, A. (2017). *Learning Analytics in Higher Education*. ASHE Monograph Series, Vol. 3, Issue 5.

Johri, A. & Olds, B. (Eds.) (2014). *Cambridge Handbook of Engineering Education Research*. Cambridge University Press, New York, NY.

Teaching Related Journal Articles (Last three years: 2019-2021)

- Johri, A. (2021). Lifelong and Lifewide Learning for the Perpetual Development of Expertise in Engineering. *European Journal of Engineering Education*. <https://doi.org/10.1080/03043797.2021.1944064>
- Brozina, C., Knight, D., Kinoshita, T., & Johri, A. (2019). Engaged to succeed: Understanding first-year engineering students' course engagement and performance through analytics. *IEEE Access*. (IF: 4.098)
- *Malik, A., *Heyman-Schrum, C. & Johri, A. (2019). Use of Twitter Across Educational Settings: A Review of the Literature. *International Journal of Educational Technology in Higher Education*, 16(36). (IF: 1.922)
- Klein, C., Lester, J., Nguyen, T., Justen, A., Rangwala, H., & Johri, A. (2019). Student Sensemaking of Learning Analytics Dashboard Interventions in Higher Education. *Journal of Educational Technology Systems*.
- Klein, C., Lester, J., Rangwala, H. & Johri, A. (2019). Technological Barriers and Incentives to Learning Analytics Adoption in Higher Education: Insights from Users. *Journal of Computing in Higher Education*. (IF: 1.870)
- Klein, C., Lester, J., Rangwala, H. & Johri, A. (2019). Learning Analytics Tools in Higher Education: Adoption at the Intersection of Institutional Commitment and Individual Action. *The Review of Higher Education*. (IF: 1.028)
- *Almatrafi, O. & Johri, A. (2019). Systematic Review of Discussion Forums in Massive Online Open Courses (MOOCs). *IEEE Transactions on Learning Technologies*, Vol. 12(3): 413-428. (IF: 2.315)

Teaching Related Conference Proceedings (Last three years: 2019-2021)

- Le, H. & Johri, A. (2021). Engineers' Situated Use of Online Resources to Augment their Workplace Learning Ecology. Proceedings of IEEE/ERM Frontiers in Education, 2021.
- *Karbasiyan, H. & Johri, A. (2021). Keeping Curriculum Relevant: Identifying Longitudinal Shifts in Computer Science Topics through Analysis of Q&A Communities. Proceedings of IEEE/ERM Frontiers in Education, 2021.
- *Hingle, A., Rangwala, H, Johri, A., & Monea, A. (2021). Using Role-Plays to Improve Ethical Understanding of Algorithms Among Computing Students. Proceedings of IEEE/ERM Frontiers in Education, 2021.
- Martin, D., Bombaerts, G. & Johri, A. (2021). Ethics is a disempowered subject in the engineering curriculum. Proceedings of SEFI 2021.
- *Hingle, A., Johri, A., Rangwala, H. & Monea, A (2021). Using the Boeing Max Air Disaster as A Role-Play Scenario for Teaching Ethical Thinking. Proceedings of ASEE Annual Conference 2021.
- *Karbasiyan, H. & Johri, A. (2020). Insights for Curriculum Development: Identifying Emerging Data Science Topics through Analysis of Q&A Communities. Proceedings of ACM Special Interest Group on Computer Science Education (SIGCSE 2020). (Acceptance Rate: 31.4%)
- *Chowdhury, B., Johri, A., Lohani, V. & Kafura, D. (2019). Be Constructive: Learning Computational Thinking Using Scratch™ Online Community. *Proceedings of International Conference of Web-based Learning (ICWL 2019)*.
- Brozina, C. & Johri, A. (2019). Engineering Time: A Learning Analytics Initiative to Understand Time Management of First-year Engineering Students. *Proceedings of ASEE 2019*.

Teaching Related Invited Talks (Last three years: 2019-2021)

- Johri, A. (2021). Artificial Intelligence (AI), Ethics, and Society: Implications for Education. Tallinn University of Technology, Tallinn, Estonia, November 5, 2021.
- Johri, A. (2021). AI Ethics Education and the Moral Imagination of Educators. TU Eindhoven, Eindhoven, the Netherlands, October 13, 2021.
- Johri, A. (2021). Interactive Role-Play Case Studies for Teaching Ethics. SEFI Ethics Seminar, March 4, 2021.
- Johri, A. (2020). A Learning Ecology Perspective on Using Technology for Education. At International Webinar on Digitilization in Higher Education, June 13, 2020. Padmashree Institute of Management and Sciences, Bengaluru, India.
- Johri, A. (2019). AI-Augmented Engineering Education. Department of Engineering Education, Virginia Tech, November 1, 2019.
- Johri, A. (2019). Informal Engineering Learning in Online Communities. Center for Teaching and Learning, Technical University, Hamburg, October 1, 2019.