# **VIVEK K. SINGH**

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https://scholar.google.com/citations?user=Ef1hJ8IAAAAJ

#### **APPOINTMENTS**

RUTGERS UNIVERSITY New Brunswick, NJ

Associate Professor of Information Science, School of Communication & Information (with tenure), Jul 2020- current Member of Graduate Faculty, Department of Electrical and Computer Engineering (ECE),

Associate Member of Graduate Faculty, Department of Computer Science (CS),

Director, Behavioral Informatics Lab.

Assistant Professor of Information Science

Sep 2014- Jun 2020

- Research Interests: Human-centered Data Science, Digital Wellness, Algorithmic Fairness.
- Teaching Areas: Data Analytics, Social Informatics, and Foundations of Data Science.
- Steering committee member for a new Rutgers undergraduate major in Data Science.
- PhD program coordinator for the department

## MASSACHUSSETS INSTITUTE OF TECHNOLOGY

Cambridge, MA

Visiting Scholar (Institute of Data, Systems, and Society)

Sep 2021 – current

**Visiting Professor** 

Sep 2014 – Aug 2018 Mar 2019 - Mar 2020

Research Affiliate
Collaborative research in human-centered data science.

DATAMINR New York, NY

Distinguished Visiting Scientist - AI/ Engineering

May 2022 - current

Collaborative research in human-centered data science and social networks.

#### PROFESSIONAL PREPARATION

## MASSACHUSSETS INSTITUTE OF TECHNOLOGY

Cambridge, MA

# Post-Doctoral Associate, Human Dynamics Group, MIT Media Lab

Sep 2012-Aug 2014

- Research Focus: Understanding human behavior using social, behavioral, 'big' data.
   (Mentor: Professor Alex 'Sandy' Pentland)
- Research Interests: Social Reality Mining, Computational Social Science, Personal Data Analytics.

# **UNIVERSITY OF CALIFORNIA, IRVINE**

Irvine, CA

# Ph.D., Computer Science, Donald Bren School of Information and Computer Science,

2007-2012

- Thesis Topic: "Personalized Situation Recognition" (Advisor: Professor Ramesh Jain)
- Research Interests: Personalized Decision Systems, Multimedia Systems, Social Media.

# **NATIONAL UNIVERSITY OF SINGAPORE**

Singapore

• Fully sponsored (tuition, room, and board) for undergraduate studies under the Singapore Airlines- Neptune Orient Lines scholarship. (One of ~30 candidates selected from over 8,000 applicants nation-wide in India).

## **AWARDS AND ACHIEVEMENTS**

- ASIS&T SIG-Social Media Best Paper Award, 2022 for the article ""Not all my friends are friends": Audience-group-based nudges for managing location privacy" published in JASIST. This award is given to the best social media-related paper in the field of information science published in any relevant venue.
- **Top cited article award for 2020-2021,** Journal of the Association for Information Science and Technology (JASIST), for article "Detecting fake news stories via multimodal analysis".
- ASIS&T SIG of the Year 2018-2019. Won by SIG-Social Media. I was the Chair-Elect during this period.
- Honorable Mention (Social Integration category), <u>The Data For Refugees Challenge</u>, which aimed to present solutions for the problems of Syrian refugees in Turkey. Organized by Türk Telekom, Boğaziçi University and TÜBİTAK, with support of UNICEF, UNHCR and the International Organization for Migration, 2018.
- *Distinguished Achievement in Research* Award, Department of Library and Information Science, Rutgers University, 2015.
- Selected as a "Rising Star" speaker by ACM SIG Multimedia (one out of 12 selected worldwide- details here), 2015.
- 1<sup>st</sup> prize in Datathon on "Big Data for Social Good" organized by O<sub>2</sub>, MIT, Telefonica and Open Data Institute, at Campus Party, London, Sep 2013.
- Selected as an "Emerging Leader in Multimedia Research", by IBM Research Labs, NY. One of 10 selected worldwide in 2009.
- Best Paper Award at ACM Workshop on Social Media (WSM 2009) co-located with ACM Multimedia Conference.
- Best Student Paper at IEEE Workshop on Situation Management (SIMA 2009), co-located with IEEE Military Communications conference.

## **TOOLS AND TECHNOLOGIES**

- Programming experience: Python, Java, C++, R script
- Machine Learning tools: Keras, Tensorflow, Scikit-Learn, Weka, AIF360
- Data processing tools: OpenCV, NLTK, NetworkX

#### **RESEARCH GRANTS**

## **Total Funding: Over \$1.25 Million.**

## **EXTERNAL: FUNDED**

- National Science Foundation, Collaborative Research: Predictive Intelligence for Pandemic Prevention, Theme
   4: Social and Behavioral Obstacles and Supports, Role: Pl. 2021-2022. \$25,814.00
- National Science Foundation, RAPID: Countering Language Biases in COVID-19 Search Auto-Completes, Role:
   PI, Co-PI: Pamela Valera, 2020-2021. \$198,985.00.
- National Science Foundation, RAPID: Privacy-Preserving Crowdsensing of COVID-19 and its Sociological and Epidemiological Implications, Role: Co-PI, PI: Jaideep Vaidya, 2020-2021. \$199,597.00.
- National Science Foundation, EAGER: SaTC: Early-Stage Interdisciplinary Collaboration: Fair and Accurate Information Quality Assessment Algorithm, Role: PI, Co-PI: Lauren Feldman, 2019-2021. \$315,946.00. (Including Research Experience for Undergraduates supplement)

- National Science Foundation, Student Travel Support for the 26th ACM International Conference on Multimedia 2018 (ACM MM 2018), Role: (Single) PI, 2018-2019. \$15,543.00.
- National Science Foundation, CRII: CHS: Cyberbullying Detection Using Content and Social Network Analysis,
   Role: (Single) PI, 2015-2019. \$188,348.00. (Including Research Experience for Undergraduates supplement)
- Google Research Award, Predicting Search Behavior Using Physical and Online Explorations, Role: Co-PI, PI: Chirag Shah, 2016, \$62,813.00.

#### **INTERNAL: FUNDED**

- Modeling Well-being Using Digital Traces and Al. Role: PI, Rutgers Office for Research, 07/01/2022 06/30/2022, \$15,000.00
- Can Digital Health Technologies and Data Science Transform Health Professional Practice and Communication, and Ensure Health Equity? Role: Co-PI, PI: M Matsaganis, Other Co-PI: Lisa Mikesell. Rutgers School of Communication and Information Scholarly Futures, 1/1/2022-12/31/2022, \$50,000.00
- Rutgers Center For COVID-19 Response and Pandemic Preparedness Research Grant, AI, Pandemics, and Mental Health, Role: PI, Co-PIs: Vince Silenzio, Sara Pixley, Fred Roberts, David Pennock, Roseanne Dobkin, and Kostas Bekris, 2019-2021, \$26,000.00.
- Rutgers Office for Research and Economic Development (ORED) Interdisciplinary Research Group (IRG),
   Human Centered Design with Communities for Individual and Population Health. Role: Co-PI (one of 27 Co-PIs), PIs: Mark Aakhus and Sarah Allred, 2018-2019, \$200,000.00.
- Rutgers Community Design for Health and Wellness Interdisciplinary Research Group Funding, Towards Fairness in Mental Health Prediction Apps, Role: Co-PI, PI: Kaitlin Costello, 2019-2019, \$18,000.00.
- Rutgers SC&I Grants for Individual Faculty Research, Gender Bias in the Voices of Smart Home Devices, Role:
   PI, 2019-2019, \$4,000.00.
- Rutgers SC&I Research Development Grant, Reimagining Mobile Phones as Cooperation Catalysts, Role: (Single) PI, 2018-2018. \$3,000.00.
- Rutgers SC&I Research Development Grant, Designing Nudges for Mobile Information Privacy, Role: (Single)
   PI, 2017-2017. \$3,400.00.
- Rutgers SC&I Research Development Grant, Real-time Diversity Analytics, Role: (Single) PI, 2016-2016.
   \$3,500.00.
- SCI Research Development Grant, Predicting User Well-being via Socio-Mobile data, Role: (Single) PI, 2015-2015. \$7,500.00.

# **RESEARCH STUDENT/POST-DOC SUPERVISION**

## **Post-Doctoral Research**

## Post-Doctoral Associate Research

Dr. Chidansh Bhatt (Ph.D., CS, National University of Singapore). Research Area:
 Algorithmic Fairness. Now at IBM TJ Watson Research Lab, USA.

## **PhD Level Research**

## Dissertation Committee Chair (Primary Advisor) Completed:

 Dr. Ghassan Bati (Rutgers ECE); defended: Fall 2018. Dissertation Title: "Phoneotypic Modeling of Human Behaviors and Propensities." Now Assistant Professor at Umm Al-Qura University, Saudi Arabia.

- Dr. Isha Ghosh (Rutgers LIS); defended: Summer 2020. Dissertation Title: "Social Interventions to Reduce the Privacy Paradox." Now at Intel, USA.
- Jinkyung Katie Park (Rutgers LIS); defended: Spring 2022. Dissertation Title: "A Design Intervention to Reduce Online Incivility." Now post-doc at Vanderbilt University, USA.

# Dissertation Committee Chair (Primary Advisor) In Progress:

- Jamal Alasadi (Rutgers ECE). PhD proposal exam passed: Fall 2020.
- Abdulaziz Almuzaini (Rutgers CS). Qualifying exam passed: Fall 2021. (Co-mentored with David Pennock.)
- Eiman Ahmed (Rutgers LIS). In course work as of Fall 2022.
- Arcadio Matos (Rutgers LIS). In course work as of Fall 2022.
- Joshua Rochotte (Rutgers LIS). In course work as of Fall 2022.

#### Dissertation Committee Member:

- Mousa Ahmadi (New Jersey Institute of Technology, Information Systems): PhD thesis defended:
   Summer 2021.
- Manasa Rath (Rutgers LIS): PhD thesis defended: Summer 2020.
- Teis Kristensen (Rutgers Communication): PhD thesis defended: Summer 2019.
- Eun Baik (Rutgers LIS): PhD thesis defended: Summer 2019.
- Dongho Choi (Rutgers LIS): PhD thesis defended: Fall 2017.

# Qualifying Exam Committee Member:

- Soumik Mandal (Rutgers LIS): passed qualifying exam: Fall 2018.
- Jigun Liu (Rutgers LIS): passed qualifying exam: Fall 2018.

# Independent Study Supervision and Research Assistants

- Abdulaziz Almuzaini (Rutgers CS): Independent Study, 2019-2021.
- Eiman Ahmed (Rutgers LIS): Independent Study and Research Assistant on an NSF grant, 2021 ongoing
- Arcadio Matos (Rutgers LIS): Independent Study and Research Assistant on an NSF grant, 2021ongoing
- Julie Aromi (Rutgers LIS): Research Assistant on an NSF grant, 2020-2022
- Jinkyung (Katie) Park (Rutgers LIS): Volunteer Research Assistant, 2019.
- Diana Floegel (Rutgers LIS): Research Assistant on an NSF grant, 2019.
- Jiqun Liu (Rutgers LIS): Independent Study, 2017.
- Soumik Mandal (Rutgers LIS): Independent Study, 2017.
- Souvick Ghosh (Rutgers LIS): Research Assistant on an NSF grant, 2016.
- Dongho Choi (Rutgers LIS): Research Assistant on a Google grant, 2016.
- Manasa Rath (Rutgers LIS): Independent Study, 2016.
- Qianjia Huang (Rutgers LIS): Volunteer Research Assistant, 2015.

#### **Masters-Level Research**

# MS thesis supervision

Saket Hegde (MS thesis, Rutgers ECE): defended Fall 2017.

# – MS thesis committee member:

- Ashish Tripathi (U. Winnipeg, CS): defended Fall 2015.
- Abukari Yakubu (U. Winnipeg, CS): defended Fall 2015.
- Qianjia Huang (U. Winnipeg, CS): defended Fall 2014.

#### Other master's level research

- Erick Rivera (Independent Study, Rutgers MI), 2018.
- Vinayak Nayak (Independent Study, Rutgers Master of Business and Science), 2018.
- Amirtha Sridharan (Independent Study, Rutgers Master of Business and Science), 2018.
- Joshua Rochette (Independent Study, Rutgers MI), 2017.
- Rushil Goyal (Independent Study, Rutgers Master of Business and Science), 2017.
- Isha Ghosh (Capstone Project, Rutgers Master of Communication and Information Studies), 2016.
- Priya Subramanian (Independent Study, Rutgers Master of Business and Science), 2015.
- Christin Jose: Research Assistant on an NSF grant, 2015
- Yaguang Liu: Research Assistant on an NSF grant, 2016
- Darshan Songara: Research Assistant on an NSF grant, 2018
- Raj Inamdar: Research Assistant on an NSF grant, 2018
- Gautam Sikka: Research Assistant on an NSF grant, 2019
- Ishaan Singh: Research Assistant on an NSF grant, 2020
- Ritesh Sawant: Research Assistant on an NSF grant, 2020
- Ramanathan Arunachalam: Research Assistant on an NSF grant, 2021
- Katherine Lee: Research Assistant on an NSF grant, 2021
- Rahul Ellezhthil: Research Assistant on an NSF grant, 2022
- Aniket Sanap: Research Assistant on an NSF grant, 2022
- Srujan Dendukuri: Research Assistant on an NSF grant, 2022
- Jenil Jain: Research Assistant on an NSF grant, 2022

## **Undergraduate Researchers**

- Alan Wu (Rutgers): Research Assistant, 2022.
- Nitin Gowda (Rutgers): Research Assistant, 2022.
- Jacob Roy (Rutgers): Research Assistant, 2021.
- Yisel Breton (Rutgers): Research Assistant (NSF Research Experience for Undergraduates), 2020.
- Aidan Andrucyk (Rutgers): Volunteer Research Assistant. 2020.
- Connor Hofenbitzer (Rutgers): Research Assistant (NSF Research Experience for Undergraduates), 2018-2019.
- Rishab Chawla (Rutgers): Research Assistant (NSF Research Experience for Undergraduates), 2018.
- Akansha Atrey (University at Albany): Volunteer Research Assistant, 2017-2018.
- Devin Soni (Rutgers): Research Assistant (NSF Research Experience for Undergraduates), 2016-2018.
- Shenghao Wu (Columbia): Volunteer Research Assistant, 2016-2018.
- Arushi Jain (Indian Institute of Technology, Kanpur): Volunteer Research Assistant, 2016.
- Suril Dalal (Rutgers): ITI Independent Study, 2015.
- Sneha Dasari (Rutgers): ITI Independent Study, 2015.
- Ariana Blake (Rutgers): ITI Independent Study, 2015.
- Rishav Raj Agarwal (Indian Institute of Technology, Kanpur): Summer research intern, 2015.

# **High School Student Researcher**

- Aarushi Srivastava (South Brunswick High School, Monmouth Junction, NJ): Research assistant 2017-2018.

- Classes taught:
- Ph.D. level
  - Understanding, Building, and Designing Social Media
    - Spring 2017 (cross-listed with MI).
  - Quantitative Research Methods
    - Fall 2020
- Master of Information (MI)
  - Data Analytics for Information Professionals
    - Fall 2014, Spring 2015, Fall 2015 (cross-listed with ITI).
    - Fall 2016, Spring 2017, Fall 2017, Summer 2018, Fall 2018,
       Spring 2019, Summer 2019, Fall 2019, Spring 2020, Spring 2021,
       Summer 2021, Spring 2022, Summer 2022, Fall 2022 (not cross-listed).
  - Understanding, Building, and Designing Social Media
    - Spring 2017, Spring 2020 (cross-listed with Ph.D.).
  - Foundations of Data Science
    - Fall 2016 (cross-listed with ITI).
- Information Technology and Informatics (ITI, undergraduate level)
  - Data in Context
    - Fall 2022
  - Data Analytics
    - Fall 2014, Spring 2015, Fall 2015 (cross-listed with MI)
    - Fall 2017, Fall 2018, Spring 2019, Summer 2019, Fall 2020, Summer 2021, Spring 2022 (not cross-listed).
  - Foundations of Data Science
    - Fall 2016
  - Social Informatics
    - Fall 2015.
- Course material developed/revised significantly for:
  - Understanding, Building, and Designing Social Media (significant changes made)
  - Fundamentals of Data Science (new course)
  - Data in Context (new course)
  - Fundamentals of Big Data Curation and Management (significant revisions made, name changed)

# **Teaching at Institute of Technical Education, Singapore**

2002-2006

Four years of full-time teaching experience as a Lecturer. Classes taught (at post-secondary education level) included Web Programming, Multimedia Production, and Database Systems. Duties included developing the curriculum, delivering lectures, leading laboratory sessions, and mentoring students on various internal and external projects.

**SERVICE** 

# • Professional Organizations:

Chair, ASIS&T (Association for Information Science & Technology) Special Interest Group, SIG-Social Media,
 2019-2020. I was Past Chair during 2020-2021, and Chair-Elect during 2018- 2019.

# • Conference/Workshop Organization:

- Program Co-Chair, ACM (Association of Computational Machinery), International Conference on Multimedia,
   2024
- Co-Editor, ACM CSCW, aka Proceedings of the ACM- HCI (CSCW), 2023.
- Program Co-Chair, ACM International Conference on Multimedia Retrieval, 2022
- Co-organizer, NSF Predictive Intelligence for Pandemic Prevention (PIPP) "Human" Workshop, 2021
- Tutorials and Workshops Chair, ACM Web Science Conference, 2021
- Posters Co-chair: ACM CSCW conference, 2020.
- Co-organizer: ASIS&T Symposium on Social Informatics, 2020.
- Grand Challenge Co-Chair: ACM Multimedia Conference, 2019.
- Program Committee Co-Chair: IEEE (Institute of Electrical and Electronics Engineers) International Conference on Multimedia Big Data, 2019.
- Student Travel Grant Co-Chair: ACM Multimedia Conference, 2018.
- Doctoral Consortium Co-Chair: ACM SIGIR Conference on Human Information Interaction and Retrieval (CHIIR), 2018.
- Tutorials Co-Chair: ACM Multimedia Conference, 2017.
- Panels Co-Chair: ACM/IEE International Conference on Digital Libraries, 2016; ACM International Conference on Multimedia, 2017.
- Best paper selection committee: ACM CSCW (Conference on Computer-Supported Cooperative Work and Social Computing), 2018.
- General Co-Chair: First ACM Workshop on "Personal Data Meets Distributed Multimedia", co-located with ACM Multimedia Conference, Oct 2013, Barcelona, Spain.
- Co-organizer: Temporal Networks, Human Dynamics and Social Physics NetSci'14 Symposium, Berkeley,
   California, June 2014.

## • Journal Editing:

- Editorial Board Member: Multimedia Systems journal. July 2019- ongoing.
- Journal Guest Co-Editor: IEEE Multimedia Special Issue: New Signals in Multimedia Systems and Applications,
   2018.
- Journal Guest Co-Editor: IEEE Transactions on Internet Technology, Special Issue: Foundations of Social Computing: Dec 2016.
- Journal Guest Co-Editor: IEEE Internet Computing Special Issue: Physical-Cyber-Social Computing, 2015.

## • Program Committee membership:

- ACM CSCW Conference (Associate Chair), 2016, 2017, 2018, 2019, 2020, 2022
- ACM CHI Conference (Associate Chair), 2019, 2021.
- iConference, the annual conference of information schools, 2019.
- ACM Multimedia Conference, 2013, 2014, 2015, 2016, 2017, 2018.
- IEEE International Conference on Multimedia and Expo, 2015, 2016.
- ACM International Conference on Multimedia Retrieval, 2016, 2019.
- ACM WebScience Conference, 2016.

# Reviewing for Journals:

- Proceedings of the National Academy of Science
- Science Advances
- Proceedings of the IEEE
- IEEE Transactions on Multimedia
- ACM Transactions on Multimedia Computing, Communications and Applications
- Multimedia Tools and Applications
- IEEE Transactions on Services Computing
- Cambridge Network Science
- Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies
- Proceedings of the ACM on Human Computer Interaction (CSCW)
- Human Computer Interaction Journal
- Journal of the Association for Information Science and Technology (JASIST)
- Journal of Medical Internet Research

# • Reviewing for research grant proposals:

- Panel reviewer for National Science Foundation: 2015, 2016, 2017, 2018, 2020.
- External Reviewer for the Natural Sciences and Engineering Research Council of Canada, 2016-2017.
- External Reviewer for U.S.-Israel Binational Science Foundation, 2015.
- External reviewer for the National Science Foundation: 2013, 2020.

## • Rutgers: Multi-school and university-wide committees

- Steering Committee, Rutgers Undergraduate Programs in Data Science: 2020 current.
- Organizing Committee, Rutgers AI and Pandemic Working Group.

# Rutgers School of Communication and Information (SC&I) committees

- Chair, SC&I Data Science Curriculum Development Committee, 2020 current.
- Faculty Secretary: 2018-2020.
- Member, SC&I Research Development Committee: 2014-2015, 2020-2021.

## Rutgers Department of Library and Information Science committees

- PhD area coordinator, 2022-2024.
- Chair, Faculty Search Committee, 2020-2021.
- Member, Faculty Search Committee, 2019-2020.
- Coordinator: Data Science concentration for the MI program: 2018-2019.
- Member, Department Search Committee, 2018-2019.
- Member, ALA accreditation task force: Standards team: 2017-2018.
- Member: Ph.D. curriculum review committee: 2017-2018.
- Chair, LIS Research Development Committee and Coordinator- LIS Speaker Series: 2015-2016.
- Member, LIS Research Development Committee: 2014-2015.

# • Community Engagement

- Invited Speaker: Highland Park High School, Highland Park, NJ. Introductory lecture to 200 high-school students on online privacy management and cyberbullying prevention, 2015.
- Member, Congressman Gottheimer's New Jersey Anti-Bullying Task Force, 2020.

# PUBLICATIONS Total Citations: 2956

H-Index: 30

(As per Google Scholar on Oct 22, 2022)

#### **Authored and Edited Books**

- 1. **Singh, V.K.,** & Jain, R., *Situation Recognition Using EventShop* (co-authored monograph), Springer, pp. 1-150, ISBN: 978-3-319-30535-6 / 3319305352 (Published: June 2016.)
- 2. Bozkaya, B., & **Singh, V.K.** *Geo-Intelligence and Visualization through Big Data Trends* (edited book). Hershey, PA: IGI Global. doi 10.4018/978-1-4666-8465-2, pp. 1-349, 2015.

# Journal Articles: Published or Accepted<sup>1</sup>

- 1. Asif, H., Papakonstantinou, P., Shiau, S., **Singh, V.**, & Vaidya, J. (2022), Intelligent Pandemic Surveillance via Privacy-Preserving Crowdsensing. IEEE Intelligent Systems. July 2022, 88-96. (Impact Factor<sup>2</sup>: 3.405, H5 index: N/A)
- 2. Park, J. <sup>g</sup>, Arunachalam, R. <sup>g</sup>, Silenzio, V., & **Singh, V. K.** (2022). Fairness in Mobile Phone–Based Mental Health Assessment Algorithms: Exploratory Study. *JMIR formative research*, *6*(6), e34366. (Impact Factor: N/A, H5 index: 21)
- 3. Ghosh, I. g, & Singh, V. (2022). "Not all my friends are friends": Audience-group-based nudges for managing location privacy. Journal of the Association for Information Science and Technology, 73(6), 797-810. (Impact Factor: 2.687; H5 index<sup>3</sup>: 55)
- 4. **Singh, V. K.,** Ghosh, I.<sup>g</sup>, & Sonagara, D.<sup>g</sup> (2021). Detecting fake news stories via multimodal analysis. *Journal of the Association for Information Science and Technology*, *72*(1), 3-17. (Impact Factor: 2.687; H5 index: 55)
- 5. Bati, G. F. <sup>g</sup>, & **Singh, V. K.** (2021). Altrumetrics: Inferring Altruism Propensity Based on Mobile Phone Use Patterns. *IEEE Transactions on Big Data*. 7 (2), 397-406. DOI: 10.1109/TBDATA.2018.2873346. Length: 11 pages. (Impact Factor: 3.344; H5 Index: 43)
- 6. Bati, G. F. <sup>g</sup>, & **Singh, V. K.** (2021). NADAL: A Neighbor-Aware Deep Learning Approach for Inferring Interpersonal Trust Using Smartphone Data. *Computers*, *10*(1), 3. (Impact Factor: N/A; H5 index: N/A)
- 7. **Singh, V. K.**, André, E., Boll, S., Hildebrandt, M., & Shamma, D. A. (2020). Legal and ethical challenges in multimedia research. *IEEE MultiMedia*, *27*(2), 46-54. (Impact Factor: 5.633; H5 index: 26)
- 8. Choi, D., Shah, C., & **Singh, V.** (2020). Investigating information seeking in physical and online environments with escape room and web search. *Journal of Information Science*, 0165551520972285. <a href="https://doi.org/10.1177/0165551520972285">https://doi.org/10.1177/0165551520972285</a> (Impact Factor: 3.282; H5 index: 35)
- 9. **Singh, V.,** Chayko, M., Inamdar, R. <sup>g</sup>, & Floegel, D. <sup>g</sup> (2020). Female librarians and male computer programmers? Gender bias in occupational images on digital media platforms. *Journal of the Association for Information Science and Technology*, 71(11), 1281-1294. (Impact Factor: 2.687; H5 index: 55)

<sup>&</sup>lt;sup>1</sup> gindicates that the co-author was a *graduate* student or a post-doc who was supervised by Vivek Singh;

<sup>&</sup>lt;sup>u</sup> indicates that the co-author was an undergraduate student who was supervised by Vivek Singh.

<sup>&</sup>lt;sup>2</sup> Impact factor as obtained from Clarivate Journal Citation Reports, Jan 2022.

<sup>&</sup>lt;sup>3</sup> H5 index as obtained from Google Scholar, Jan 2022.

- 10. Ghosh, I. g, & Singh, V. (2020). Phones, privacy, and predictions: A study of phone logged data to predict privacy attitudes of individuals. *Online Information Review*. 44(2), 483-502. DOI:10.1108/OIR-03-2018-0112DOI: https://doi.org/10.1108/OIR-03-2018-0112. Length: 20 pages. (Impact Factor: 1.928, H5 Index: 30)
- 11. Agarwal, R. R<sup>g</sup>., Lin, C. C., Chen, K. T., & **Singh, V. K.** (2018). Predicting financial trouble using call data—On social capital, phone logs, and financial trouble. *PloS one*, *13*(2), e0191863 (Impact Factor: 3.240; H5 index: 185)
- 12. **Singh, V. K.,** Goyal, R. <sup>g</sup>, & Wu, S. <sup>u</sup> (2018). Riskalyzer: Inferring Individual Risk-Taking Propensity Using Phone Metadata. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, *2*(1), 34. Length: 21 pages. (Impact Factor: N/A; H5 index: 45)
- 13. Soni, D. ", & **Singh, V. K.** (2018). See No Evil, Hear No Evil: Audio-Visual-Textual Cyberbullying Detection. *Proceedings of the ACM on Human-Computer Interaction*, *2*(CSCW), 164. Length: 25 pages. (Impact Factor: N/A; H5 Index: 43)
- 14. Huang, Q. g, Singh, V. K., & Atrey, P. K. (2018). On cyberbullying incidents and underlying online social relationships. *Journal of Computational Social Science*, 1(2), 241-260. https://doi.org/10.1007/s42001-018-0026-9. (Impact Factor: N/A; H5 Index: N/A)
- 15. Dong, X., Suhara, Y., Bozkaya, B., **Singh, V. K**., Lepri, B., & Pentland, A. S. (2018). Social bridges in urban purchase behavior. *ACM Transactions on Intelligent Systems and Technology (TIST)*, *9*(3), 1-29. (Impact Factor: 4.654, H5 Index: 40)
- 16. **Singh, V. K.,** & Ghosh, I. g (2017). Inferring Individual Social Capital Automatically via Phone Logs. *Proceedings of the ACM on Human-Computer Interaction*, 1(CSCW), 95. Length: 12 pages. (Impact Factor: N/A; H5 Index: 43)
- 17. **Singh, V. K.,** Fernandes, D., Kankanhalli, M., & Haenselmann, T. (2016). Decoupled Multicamera Sensing for Flexible View Generation. *Journal of Sensors*, *501*(8137859), 1-13. (Impact Factor: 2.137, H5 Index: 42)
- 18. Almaatouq, A., Shmueli, E., Nouh, M., Alabdulkareem, A., **Singh, V. K.,** Alsaleh, M., Alarifi, A., Alfaris, A. & Pentland, A.S. (2016). If it looks like a spammer and behaves like a spammer, it must be a spammer: analysis and detection of microblogging spam accounts. *International Journal of Information Security*, *15*(5), 475-491. (Impact Factor: 1.988, H5 Index: 25)
- 19. **Singh, V. K.,** Bozkaya, B., & Pentland, A. (2015). Money Walks: Implicit Mobility Behavior and Financial Well-Being. *PloS one, 10*(8), e0136628. Length: 17 pages. (Impact Factor: 3.240; H5 index: 185)
- 20. de Montjoye, Y. A., Radaelli, L., **Singh, V. K.,** & Pentland, A. (2015). Unique in the shopping mall: On the reidentifiability of credit card metadata. *Science*, *347*(6221), 536-539. (Impact Factor: 47.728, H5 Index: 391)
- 21. Shmueli, E., **Singh, V. K.,** Lepri, B., & Pentland, A. (2014). Sensing, understanding, and shaping social behavior. *IEEE Transactions on Computational Social Systems*, *1*(1), 22-34. (Impact Factor: N/A; H5 Index: 33)
- 22. **Singh, V. K.,** Mani, A., & Pentland, A. (2014). Social Persuasion in Online and Physical Networks. *Proceedings of the IEEE, 102*(12), 1903-1910. (Impact Factor: 10.961, H5 Index: 93)
- 23. **Singh, V. K.,** Freeman, L., Lepri, B., & Pentland, A. S. (2013). Classifying spending behavior using socio-mobile data. *HUMAN*, *2*(2), pp-99. Length: 13 pages. (Impact Factor: N/A, H5 Index: N/A)
- 24. **Singh, V. K.,** & Kankanhalli, M. S. (2009). Adversary aware surveillance systems. *IEEE Transactions on Information Forensics and Security*, *4*(3), 552-563. (Impact Factor: 7.178, H5 Index: 92)
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## **Journal Guest Editorials**

- 1. Cesar, P., Singh, V., Jain, R., Sebe, N., & Oliver, N. (2018). (Guest editorial) New Signals in Multimedia Systems and Applications. *IEEE MultiMedia*, (1), 12-13. (Impact Factor: 5.633; H5 index: 26)
- Chopra, A. K., Shmueli, E., & Singh, V. K. (2017). (Guest editorial) Introduction to the special issue on advances in social computing. ACM Transactions on Internet Technology (TOIT), 17(2), 11. DOI: https://doi.org/10.1145/3080258. Length: 2 pages. (Impact Factor: 3.135, H5 Index: 33)
- 3. Barnaghi, P., Sheth, A., **Singh, V.,** & Hauswirth, M. (2015). (Guest editorial) Physical-cyber-social computing: looking back, looking forward. *IEEE Internet Computing*, *19*(3), 7-11. (Impact Factor: 2.341, H5 Index: 37)

## **Journal Articles: Under Review**

- 1. **Singh V.K.**, Valera, P., Singh, I. <sup>g</sup>, Sawant, R. <sup>g</sup>, & Breton, Y. <sup>u</sup>, Examining Language Bias in COVID-19 Search Autocompletes
- 2. Aromi, J. <sup>g</sup>, Ahmed, A. <sup>g</sup>, Matos, A. <sup>g</sup>, Bhatt, C. <sup>g</sup>, Pixley, S., Silenzio, V., & **Singh, V.K.**, Mental health impacts of early vaccine adoption.

# **Book Chapters: Published**

- 1. **Singh, V.** (2017). Situation recognition using multimodal data. In S-F Chang. (Ed.), *Frontiers of Multimedia Research* (pp. 159-189). San Rafael, CA: Association for Computing Machinery and Morgan & Claypool.
- 2. Srivastava, K. A., **Singh, V. K.**, & Bozkaya, B. (2015). Assessing financial well-being of merchants by analyzing behavioral patterns in historical transactions. In Bozkaya, B., & Singh, V. K. (Eds.) *Geo-Intelligence and Visualization through Big Data Trends* (pp. 76-93). Hershey, PA: IGI Global.
- 3. **Singh, V. K.,** Jain, R., & Kankanhalli, M. (2011). Mechanism design for incentivizing social media contributions. In Hoi, S.C.H., Luo, J., Boll, S., Xu, D, Jin, R., King, I. (Eds.), *Social media modeling and computing* (pp. 121-143). London, UK: Springer.

# International Peer-Reviewed Conferences: Proceedings Published<sup>4</sup>

- 1. Almuzaini, A. <sup>g</sup>, Bhatt, C. <sup>g</sup>, Pennock, D., & **Singh, V.K.** (2022), "ABCinML: Anticipatory Bias Correction in Machine Learning Applications". In *2022 ACM Conference on Fairness, Accountability, and Transparency* (pp. 1552-1560 (H5 Index: 44)
- 2. Park, J.<sup>g</sup> & Singh, V.K. (2022), "How Background Images Impact Online Incivility". To appear in Proc. ACM Human Computer Interaction, 6, CSCW2, Article 444 (November 2022), 23 pages (H5 index: 57)
- 3. Beytia, P., Agarwal, P., Redi, M., & **Singh, V.K.** (2022), "Visual Gender Biases in Wikipedia: A Systematic Evaluation across the Ten Most Spoken Languages". To be published in the *Proceedings of the ACM International Conference on Web and Social Media (ICWSM)*. (H5 Index: 55)

<sup>&</sup>lt;sup>4</sup> Please note that in computational disciplines, ``...papers in peer-reviewed conferences are accepted as high-quality scholarly articles." (1) Expert advisory: https://homes.cs.washington.edu/~mernst/advice/conf-vs-journal-uscis.pdf; (2) Computing Research Association (CRA) Advisory: http://cra.org/resources/best-practice-memos/evaluating-computer-scientists-and-engineers-for-promotion-and-tenure/

- 4. Park, J. <sup>g</sup>, Ellezhuthil, R. <sup>g</sup>, Arunachalam, R. <sup>g</sup>, Feldman, L., & Singh, V. (2022). Toward Fairness in Misinformation Detection Algorithms. In Workshop Proceedings of the 16th International AAAI Conference on Web and Social Media. Retrieved from https://doi.org/10.36190. (H5 Index: N/A)
- 5. Park, J. <sup>g</sup>, Ahmed, E. <sup>g</sup>, Asif, H. <sup>g</sup>, Vaidya, J., & **Singh, V. K.** (2022). Privacy Attitudes and COVID Symptom Tracking Apps: Understanding Active Boundary Management by Users. In International Conference on Information (pp. 332-346). Springer, Cham. (H5 Index: 15)
- 6. Kulkarni, O. N., Patil, V., **Singh, V. K.**, & Atrey, P. K. (2021). Accuracy and Fairness in Pupil Detection Algorithm. *In 2021 IEEE Seventh International Conference on Multimedia Big Data (BigMM) (pp. 17-24). IEEE.* (H5 Index: 19)
- 7. Houli, D. A.<sup>g</sup>, Radford, M. L., & **Singh, V. K.** (2021). "COVID19 is\_": The Perpetuation of Coronavirus Conspiracy Theories via Google Autocomplete. *Proceedings of the Association for Information Science and Technology*, *58*(1), 218-229. (H5 Index: 18)
- 8. Roy, J.<sup>u</sup>, Bhatt, C.<sup>g</sup>, Chayko, M., & **Singh, V. K.** (2021). Gendered Sounds in Household Devices: Results from an Online Search Case Study. *Proceedings of the Association for Information Science and Technology*, *58*(1), 824-826. (H5 Index: 18)
- 9. Alasadi, J. <sup>g</sup>, Ramanathan, A. <sup>g</sup>, Atrey, P. & **Singh, V. K.** (2020). A Fairness-Aware Fusion Framework for Multimodal Cyberbullying Detection. *In Proceedings of the IEEE International Conference on Multimedia Big Data*. (H5 Index: 19)
- 10. Abdulaziz, A. §, & Singh, V. K. (2020). Balancing Fairness and Accuracy in Sentiment Detection Using Multiple Black-box Models. *In Proceedings of the 2nd ACM International Workshop on Fairness, Accountability, and Transparency, and Ethics in MultiMedia*. (H5 Index: N/A)
- 11. **Singh, V.,** & Hofenbitzer, C.<sup>u</sup> (2019). Fairness across network positions in cyberbullying detection algorithms. In *2019 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)* (pp. 557-559). IEEE. (H5 Index: 33)
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- 15. Soni, D. ", & **Singh, V. K.** (2018). Time Reveals All Wounds: Modeling Temporal Dynamics of Cyberbullying Sessions. In *Proceedings of the Eleventh International AAAI Conference on Web and Social Media* (pp. 684-687) (H5 Index: 55)
- 16. **Singh, V. K.,** & Long, T. <sup>g</sup> (2018). Automatic assessment of mental health using phone metadata. *Proceedings of the Association for Information Science and Technology*, *55*(1), 450-459. (H5 Index: 18)
- 17. **Singh, V. K.,** Atrey, A. ", & Hegde, S. g (2017). Do individuals smile more in diverse social company?: Studying smiles and diversity via social media photos. In *Proceedings of the 25th ACM international conference on Multimedia* (pp. 1818-1827). ACM. (H5 Index: 65)
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- 19. **Singh, V. K.,** Hegde, S. <sup>g</sup>, & Atrey, A. <sup>u</sup> (2017). Towards measuring fine-grained diversity using social media photographs. In *Eleventh International AAAI Conference on Web and Social Media*. (pp. 668-671). (H5 Index: 55)
- 20. **Singh, V. K.,** & Jain, A. <sup>u</sup> (2017). Toward harmonizing self-reported and logged social data for understanding human behavior. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (pp. 2233-2238). ACM. (H5 index: 101)
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## **PATENTS**

- 1. Lou, J., Joshi, D., Stubler, P., Das, M., Lei, P. & Singh, V.K. Method for Media Reliving Playback, U.S. Patent No. 8879890: Issued November 4, 2014.
- 2. Lou, J., Joshi, D., Stubler, P., Das, M., Lei, P. & Singh, V.K. Method for media reliving on demand, U.S. Patent No. US 908245: Issued July 14, 2015.

# **INVITED TALKS**

- 1. **Invited (Keynote) Talk:** "Auditing and Controlling for Algorithmic Bias", *ACM International Workshop on Fairness, Accountability, Transparency and Ethics in Multimedia*, co-located with ACM Multimedia Conference, 2020.
- 2. **Keynote Address:** "Sensing, Understanding, and Shaping Human Behavior", *ACM International Workshop on Computational Models of Social Interactions: Human-Computer-Media Communication*, co-located with ACM Multimedia Conference, Brisbane, Australia, 2015.
- 3. "Behavioral Informatics," In *Center for Informatics Research in Science and Scholarship Seminar*, University of Illinois, Urbana Champaign, IL, 2019.
- 4. "Sensing and Shaping Human Behavior," In *Building the Future: New Technological Frontiers in Cities Conference*, Princeton University, Princeton, NJ, 2019.
- 5. "Behavioral Informatics," In Connective Media Seminar, CornellTech, New York City, NY, 2019.

- 6. "Behavioral Informatics," In Human Dynamics Group Seminar, MIT Media Lab, Cambridge, MA, 2017.
- 7. "Sensing, Understanding, and Shaping Human Behavior," In *5th International Workshop on Cyber-Physical Cloud Computing*, National Institute on Standards and Technology, Gaithersburg, MD, 2015.
- 8. "Sensing, Understanding, and Shaping Human Behavior," In *Connective Media Seminar*, CornellTech, New York City, NY, 2015.
- 9. "Sensing, Understanding, and Shaping Human Behavior," In Bay Area Multimedia Forum, Stanford, CA, 2014.

#### MEDIA COVERAGE OF RESEARCH ACTIVITIES

- Occupational Gender Bias Prevalent in Online Images, Rutgers Study Finds: <u>American Libraries Magazine</u>, <u>ACM Tech News</u>, <u>Hindustan Times</u>, <u>Yahoo Lifestyle</u>, <u>Daily Targum</u>, 2020.
- New York Times, With a Few Bits of Data, Researchers Identify 'Anonymous' People, <a href="http://bits.blogs.nytimes.com/2015/01/29/with-a-few-bits-of-data-researchers-identify-anonymous-people/">http://bits.blogs.nytimes.com/2015/01/29/with-a-few-bits-of-data-researchers-identify-anonymous-people/</a>, 2015.
- BBC News, Mobile location data 'present anonymity risk, <a href="http://www.bbc.com/news/science-environment-21923360">http://www.bbc.com/news/science-environment-21923360</a>, 2015.
- Wall Street Journal, Metadata Can Expose Person's Identity Even Without Name, <a href="http://www.wsj.com/articles/metadata-can-expose-persons-identity-even-when-name-isnt-1422558349">http://www.wsj.com/articles/metadata-can-expose-persons-identity-even-when-name-isnt-1422558349</a>, 2015.
- Nature News, People identified through credit-card use alone, 2015. <a href="http://www.nature.com/news/people-identified-through-credit-card-use-alone-1.16817">http://www.nature.com/news/people-identified-through-credit-card-use-alone-1.16817</a>
- Harvard Business Review, There's No Such Thing as Anonymous Data, <a href="https://hbr.org/2015/02/theres-no-such-thing-as-anonymous-data">https://hbr.org/2015/02/theres-no-such-thing-as-anonymous-data</a>, 2015.
- More coverage: MIT Technology Review, PBS, Le Monde (FR), Die Zeit (DE), Die Spiegel (DE), El Pais (ES), RT, The Hill, Telegraph (UK), Scientific American, New Scientist, Five Thirty Eight, Gizmodo, Fast Company, Computer World, ZDNet, Tom's guide, Popular Mechanics, Motherboard, US News, NBC, CNBC, Huffington Post (US), IEEE Spectrum, Phys.org, Radio Canada (FR), Le Vif (FR), Slate (FR), Trends-Tendance (FR), Science et vie (FR).
- Rutgers Comminfo Public Relations, Appellate Court Cites Vivek Singh's Study in Decision Against the NSA, <a href="https://comminfo.rutgers.edu/news/appellate-court-cites-vivek-singhs-study-in-decision-against-the-nsa.html">https://comminfo.rutgers.edu/news/appellate-court-cites-vivek-singhs-study-in-decision-against-the-nsa.html</a>; Link to the court judgement (page 9), 2015.
- ACM Tech News, University Receives Grant to Prevent Cyberbullying, 2015. <a href="http://cacm.acm.org/news/185388-university-receives-grant-to-prevent-cyberbullying/fulltext">http://cacm.acm.org/news/185388-university-receives-grant-to-prevent-cyberbullying/fulltext</a>.