Brian Anthony Smith

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Personal Website: https://cs.columbia.edu/~brian • *Lab Website:* https://ceal.cs.columbia.edu

Field of Specialization

Human–computer interaction (HCI)

Research Goal: *Computers as Partners in Human Ability*

My research goal is to make it possible for computers to support the deeper human processes that people need for meaningful outcomes—outcomes such as learning, autonomy, and connection with others. Guided by theories of cognition, I create systems that provide moment-to-moment support so that computers augment rather than replace human ability. I partner with industry, nonprofits, and governments to ensure that computers support the problems that matter most for a broad range of communities.

Education

Columbia University, Graduate School of Arts and Sciences, New York, NY
Ph.D. in Computer Science, Oct. 2018
Dissertation: *Unmediated Interaction: Communicating with Computers and Embedded Devices as If They Are Not There*
Advisors: Prof. Shree K. Nayar and Prof. Steven K. Feiner

M.Phil., Computer Science, Feb. 2015
Candidacy Exam: *Human Computation and Crowd-Powered Vision*

Columbia University, The Fu Foundation School of Engineering and Applied Science, New York, NY
M.S., Computer Science, Feb. 2011

B.S., *summa cum laude*, May 2009 Major: Computer Science Minor: Economics

Employment

2019–Present **Columbia University**, New York, NY
Associate Professor of Computer Science (2025–present)
Assistant Professor of Computer Science (2019–2025)
Director, Computer-Enabled Abilities Laboratory (CEAL)
Affiliate Member, Smart Cities Center + Data, Media, & Society Center, Data Science Institute
Member, NSF Center for Smart Streetscapes (Situational Awareness, Public Interest Technology, and Streetscape Applications Thrusts)

2024–Present **SCI•Foundry**, Marketing Your Science LLC, McCall, ID
Grant Writing Coach
- Lead office hours, group calls, and workshops for US faculty pursuing NIH, NSF, and industry funding.
- Coach faculty struggling with course concepts such as story deconvolution, Towers of Trust, and grant story funnel layers to incorporate them into their grants.

2018–2022 **Snap Research (Snap, Inc.)**, New York, NY & Santa Monica, CA
Research Scientist, Human–Computer Interaction (HCI) Group
- Led multi-year research programs understanding how smartglasses and AR can enrich communication between friends. Published six papers at top-tier HCI venues, filed over 20 patents, and built a partnership between Snap Research and Snap's hardware team.

2008–2020 **van Biema Value Partners, LLC**, New York, NY
Webmaster
- Create, update, and maintain a Web site for the value-only fund of funds.

2009–2018 **Columbia University**, New York, NY
Graduate Research Assistant, Computer Vision Laboratory & Computer Graphics and User Interfaces Laboratory
- Performed human–computer interaction, assistive technologies, and data mining research.

2014 **Google Research**, Mountain View, CA
Software Engineering Intern, Ph.D., Mobile Interaction Research Group (MIRG)
- Computationally optimized touchscreen keyboards for gesture typing. Published paper at CHI 2015.

2012 **Google Inc.**, New York, NY
Software Engineering Intern, Ph.D., Local Identity Team
- Designed a new method for aggregating business listings in Google Maps and Google+ Local. An estimated 2 billion listings were improved in testing.

2009–2012 **Kimera, LLC** (non-profit Columbia-based startup), New York, NY
Designer, Producer, and Developer
- Co-developed the Google-funded Bigshot camera and educational Web site (bigshotcamera.org).
- Designed and produced Bigshot Connect, a now-defunct photo-sharing Web site for kids.
- Co-instructed educational workshops with kids in New York, India, Vietnam, and Japan.

2010 **Funtank, LLC**, New York, NY
Game Design and Development Intern
- Helped design and prototype a Facebook social game based on fellowship and travel.

2007 **Banc of America Securities** (now **Bank of America Merrill Lynch**), New York, NY
Sophomore Summer Analyst (Rotational Program)
- Created client-side analytics tools in the Global Structured Products: Technology Group.
- Performed market research and company analysis in the Financial Institutions Group.

2007 **Red Monsoon**, New York, NY
Web Development & Graphic Design Intern
- Designed and created a Web site for the non-profit performing arts collaborative.

Awards & Honors

2024 ***Best Academic Research***, *Game Accessibility Conference 2024*
Awarded by the International Game Developers Association (IGDA) Game Accessibility Special Interest Group for the best academic paper on game accessibility. Winning Paper: *Surveyor (ACM CHI 2024)*

2024 ***NSF CAREER Award***, *National Science Foundation*
Proposal Title: *Making Digital Imagery Accessible to Blind and Low-Vision Users via Audiohaptic Dioramas*

2024 ***NII Shonan Meeting invitee***, *National Institute of Informatics, Japan*
Four-day Dagstuhl-style seminar promoting idea exchange between leading scientists. Title: *Augmented Multimodal Interaction for Synchronous Presentation, Collaboration, & Education w/ Remote Audiences*

2023 ***Impact Recognition Award***, *ACM CSCW 2023 (the premier social computing journal)*
A best paper award awarded to five papers (< 1%) that demonstrate real-world or practical impact.

2023 ***Janette and Armen Avanessians Diversity Award***, *Columbia Engineering*
Awarded annually to a professor whose actions encourage people from diverse backgrounds to become part of the academic community of engineering education.

2023 ***Dagstuhl Seminar invitee***, *Schloss Dagstuhl*
Highly coveted weeklong seminar promoting idea exchange within computer science.
Title: *Extended Reality Accessibility*

2022 ***Google Award for Inclusion Research (AIR)***, *Google, Inc.*
Supports computing research that addresses historically marginalized groups' needs. Joint award with Prof. Shiri Azenkot, Cornell Tech.

2021 ***Distinguished Faculty Teaching Award***, *Columbia Engineering Alumni Association (CEAA)*
Awarded annually to two faculty. I am the most junior awardee in the school's history.

2019 ***Kavli Fellow***, *National Academy of Sciences*
Awarded annually to roughly 115 distinguished young scientists from across all areas of science.

2015–2017 ***"From Data to Solutions" Integrative Graduate Education & Research Traineeship (IGERT)***, *NSF*
A 2-year interdisciplinary data science training program. Covers full tuition, fees, and travel expenses.

2013, 2015 ***Computer Science Service Award (×2)***, *Dept. of Computer Science, Columbia University*
Awarded to the Ph.D. students whose service contributions to the department are in the top 10%.

2012 ***Extraordinary Teaching Assistant Award***, *Columbia Engineering*
Awarded to the 19 TAs throughout the school with the highest Fall 2011 student evaluations ($500).

2011–2014 ***National Defense Science and Engineering Graduate (NDSEG) Fellowship***, *U.S. Dept. of Defense*
$31,000/year + tuition + fees for 3 years. There were 200 awardees from over 2,900 applications.

2009–2010 ***Center for Technology, Innovation, & Community Engagement Fellowship***, *Columbia Engineering*
Covers half-tuition for a year for 10 PhD students each year. I was the first and only MS student awardee.

2009 ***Computer Science Scholarship Award (Departmental Award)***, *Columbia Engineering*
Awarded to the top computer science graduate each year.

2009 ***Costantino Colombo Outstanding Leadership Service Award***, *Columbia Engineering*
Awarded to a graduating student for enhancing undergraduate student life. I was the inaugural awardee.

2007–2009 ***Benjamin A. Tarver, Jr. Memorial Scholar***, *Columbia Engineering*
An endowed grant that covered full undergraduate tuition and fees for 2 years.

2005–2009 ***C. Prescott Davis Scholar***, *Columbia Engineering*
A 4-year co-curricular program awarded to the top 2% of applicants to Columbia Engineering.

Authorship Conventions & Citation Count

Conferences are the primary publication venue in human–computer interaction, with senior authors listed last. Several conferences have now transitioned to papers being published in corresponding journals (e.g., ACM CSCW now publishes all papers within *Proc. ACM Hum.-Comput. Interact., CSCW Issue*).

My citation count: 1,164 My h-index: 14 *(Source: Google Scholar)*

My advisees' names are underlined. My name is **bold**.

Primary Publication Venues & 5-Year Impact Factors *(Source: Google Scholar)*

ACM CHI	h5-index: 139
ACM UIST	h5-index: 53
PACMHCI (CSCW)	h5-index: 88
ACM ASSETS	h5-index: Unavailable

Conference Publications (Fully Refereed)

[C15] Chheda-Kothary, A., Sharif, A., Rios, D. A., & **Smith, B. A.** (2025). "It Brought Me Joy": Opportunities for Spatial Browsing in Desktop Screen Readers. *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI 2025)*.
Paper: https://doi.org/10.1145/3706598.3714125 Talk: https://youtu.be/agkKY-R42zs?si=F3TAqKfrEaLTBEKT

[C14] Jain, G., Hindi, B., Zhang, Z., Srinivasula, K., Xie, M., Ghasemi, M., Weiner, D., Paris, S. A., Xu, X. Y. T., Malcolm, M., Turkcan, M., Ghaderi, J., Kostic, Z., Zussman, G., & **Smith, B. A.** (2024). StreetNav: Leveraging Street Cameras to Support Precise Outdoor Navigation for Blind Pedestrians. *Proceedings of the 35th Annual ACM Symposium on User Interface Software and Technology (UIST 2024)*.
Paper: https://doi.org/10.1145/3654777.3676333 Talk: https://youtu.be/agkKY-R42zs?si=F3TAqKfrEaLTBEKT

[C13] Teng, Y., Courtien, C., Rios, D., Tseng, Y. M., Gibson, J., Aziz, M., Reyna, A., Vaish, R., & **Smith, B. A.** (2024). Help Supporters: Exploring the Design Space of Assistive Technologies to Support Face-to-Face Help Between Blind and Sighted Strangers. *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI 2024)*.
Paper: https://doi.org/10.1145/3613904.3642816 Talk: https://youtu.be/0p0-70xGVJk?si=WptvJukQtsXhxQii

[C12] Nair, V., Zhu, H. "Hazel", Song, P., Wang, J., & **Smith, B. A.** (2024). Surveyor: Facilitating Discovery Within Video Games for Blind and Low Vision Players. *Proceedings of the 2024 CHI Conference on Human Factors in*

Computing Systems (CHI 2024).
Paper: https://doi.org/10.1145/3613904.3642615 Talk: https://youtu.be/l_8kYpp86oc?si=EZt8S05T2NVaSTZj
★ ***Best Academic Research, Game Accessibility Conference 2024*** ★

[C11] Jain, G., Hindi, B., Courtien, C., Xu, X. Y. T., Wyrick, C., Malcolm, M., & **Smith, B. A.** (2023). Front Row: Automatically Generating Immersive Audio Representations of Tennis Broadcasts for Blind Viewers. *Proceedings of the 34th Annual ACM Symposium on User Interface Software and Technology (UIST 2023)*. pp. 1–17.
Paper: https://doi.org/10.1145/3586183.3606830
Talk: https://www.youtube.com/live/YzCC3NcGVrM?si=vhK8v7tolGoH8YFf&t=3077

[C10] Nair, V., Zhu, H., and **Smith, B. A.** (2023). ImageAssist: Tools for Enhancing Touchscreen-Based Image Exploration Systems for Blind and Low Vision Users. *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI 2023)*. pp. 1–17. [Acceptance Rate: 28.4%]
Paper: https://doi.org/10.1145/3544548.3581302 Talk: https://youtu.be/lBZTTrO7HQs

[C9] Mack, K., Hsu, R. C. L., Monroy-Hernández, A., **Smith, B. A.**, and Liu, F. (2023). Towards Inclusive Avatars: Disability Representation in Avatar Platforms. *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI 2023)*. pp. 1–13. [Acceptance Rate: 28.4%]
Paper: https://doi.org/10.1145/3544548.3581481 Talk: https://youtu.be/UmWe4Q0qrel

[C8] Reig, S., Cruz, E. P., Powers, M., He, J., Chong, T., Tham, Y. J., Kratz, S., Robinson, A., **Smith, B. A.**, Vaish, R., and Monroy-Hernández, A. (2023). Supporting Piggybacked Co-Located Leisure Activities via Augmented Reality. *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI 2023)*. pp. 1–15. [Acceptance Rate: 28.4%]
Paper: https://doi.org/10.1145/3544548.3580833 Talk: https://youtu.be/4Lbk_fysRjM

[C7] Nair, V., Ma, B., Gonzalez, R., He, Y., Lin, K., Hayes, M., Huddleston, H., Donnelly, M., and **Smith, B. A.** (2022). Uncovering Visually Impaired Gamers' Preferences for Spatial Awareness Tools Within Video Games. *Proc. ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2022)*. pp. 1–16. [Acceptance Rate: 26.5%]
Paper: https://doi.org/10.1145/3517428.3544802

[C6] Surale, H., **Smith, B. A.**[†], and Vaish, R.[†]. (2022). ARcall: Exploring Augmented Reality-Based Real-Time Communication. *Proc. Augmented Humans International Conference (AHs 2022)*. pp. 1–10.
Paper: https://doi.org/10.1145/3519391.3519398
[†] Co-Principal Investigators

[C5] Nair, V., Karp, J., Silverman, S., Kalra, M., Lehv, H., Jamil, F., and **Smith, B. A.** (2021). NavStick: Making Video-Games Blind-Accessible via the Ability to Look Around. *Proceedings of the 34th Annual ACM Symposium on User Interface Software and Technology (UIST 2021)*. 14 pages. [Acceptance Rate: 21%]
Paper: https://doi.org/10.1145/3472749.3474768 Talk: https://youtu.be/oAu_Q_2YU_E

[C4] **Smith, B. A.** & Nayar, S. K. (2018). The RAD: Making Racing Games Equivalently Accessible to People Who Are Blind. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI 2018)*. Paper 516, pp. 1–12. [Acceptance Rate: 25.7%]
Paper: https://doi.org/10.1145/3173574.3174090 Talk: https://youtu.be/pwI7IGywICA

[C3] **Smith, B. A.** & Nayar, S. K. (2016). Mining Controller Inputs to Understand Gameplay. *Proceedings of the 29th Annual ACM Symposium on User Interface Software and Technology (UIST 2016)*. pp. 157–168. [Acceptance Rate: 20.6%]
Paper: https://doi.org/10.1145/2984511.2984543 Talk: https://youtu.be/_a03zIXoTYU

[C2] **Smith, B. A.**, Bi, X., & Zhai, S. (2015). Optimizing Touchscreen Keyboards for Gesture Typing. *Proceedings of the 2015 CHI Conference on Human Factors in Computing Systems (CHI 2015)*. pp. 3365–3374. [Acceptance Rate: 22.9%]
Paper: https://doi.org/10.1145/2702123.2702357 Talk: https://youtu.be/0PHjN4GjSi8

[C1] **Smith, B. A.**, Yin, Q., Feiner, S. K., & Nayar, S. K. (2013). Gaze Locking: Passive Eye Contact Detection for Human–Object Interaction. *Proceedings of the 26th Annual ACM Symposium on User Interface Software and Technology (UIST 2013)*. pp. 271–280. [Acceptance Rate: 19.6%]
Paper: https://doi.org/10.1145/2501988.2501994

Journal Articles

[J5] Leong, J., Teng, Y., Liu, X., Jun, H., Kratz, S., Tham, Y. J., Monroy-Hernández, A., **Smith, B. A.**[†], and Vaish, R.[†]. (2023). Social Wormholes: Exploring Preferences and Opportunities for Distributed and Physically Grounded

Social Connections. *Proc. ACM Hum.-Comput. Interact.* 7, CSCW2 (Nov 2023). 26 pages.
Paper: https://doi.org/10.1145/3610208
† Co-Principal Investigators

[J4] Lee, K., Li, H., Wellyanto, M. R., Tham, Y. J., Monroy-Hernández, A., Liu, F., **Smith, B. A.** †, and Vaish, R.†. (2023). Exploring Immersive Interpersonal Communication via AR. *Proc. ACM Hum.-Comput. Interact.* 7, CSCW1 (April 2023). 25 pages.
Paper: https://doi.org/10.1145/3579483
† Co-Principal Investigators

[J3] Jain, G., Teng, Y., Cho, D. H., Xing, Y., Aziz, M., and **Smith, B. A.** (2023). "I Want to Figure Things Out": Supporting Exploration in Navigation for People with Visual Impairments. *Proc. ACM Hum.-Comput. Interact.* 7, CSCW1 (April 2023). 28 pages.
Paper: https://doi.org/10.1145/3579496
★ ***Impact Recognition Award, ACM CSCW 2023*** ★

[J2] Liu, S.-Y., **Smith, B. A.**, Vaish, R.†, and Monroy-Hernández, A.† (2022). Understanding the Role of Context in Making Co-Located Interactions Enjoyable. *Proc. ACM Hum.-Comput. Interact. 6*, CSCW1, Article 131 (April 2022). 26 pages.
Paper: https://doi.org/10.1145/3512978
† Co-Principal Investigators

[J1] Nicholas, M., **Smith, B. A.**†, and Vaish, R.†. (2022). Friendscope: Exploring In-the-Moment Experience Sharing on Camera Glasses via a Shared Camera. *Proc. ACM Hum.-Comput. Interact. 6*, CSCW1, Article 56 (April 2022). 25 pages.
Paper: https://doi.org/10.1145/3512903
† Co-Principal Investigators

Misc. Publications (Demos, Workshops, Extended Abstracts, and Technical Reports)

[EA5] Walter, H., Portalatin-Mendez, E., Grimalovsky, M., **Smith, B. A.**, Laird, J., & Ortiz, J. (2024). Enhancing Urban Data Analysis through Large Language Models: A Case Study with NYC 311 Service Requests. Human – Large Language Model Interaction (HLLMI) Workshop at HRI 2024.
Paper: https://human-llm-interaction.github.io/workshop/hri24/papers/hllmi24_paper_11.pdf

[EA4] Chheda-Kothary, A., Rios, D. A., Smith, K. S., Reyna, A., Zhang, C., & **Smith, B. A.** (2023). Understanding Blind and Low Vision Users' Attitudes Towards Spatial Interactions in Desktop Screen Readers. *Proc. ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2023)*. pp. 1–5.
Paper: https://doi.org/10.1145/3597638.3614490

[EA3] Jain, G., Hindi, B., Xie, M., Zhang, Z., Srinivasula, K., Ghasemi, M., Weiner, D., Xu, X. Y. T., Paris, S. A., Tedjo, C., Bassin, J., Malcolm, M., Turkcan, M., Ghaderi, J., Kostic, Z., Zussman, G., & **Smith, B. A.** (2023). Towards Street Camera-based Outdoor Navigation for Blind Pedestrians. *Proc. ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2023)*. pp. 1–6.
Paper: https://doi.org/10.1145/3597638.3614498

[EA2] Jain, G., Hindi, B., Courtien, C., Wyrick, C., Xu, X. Y. T., Malcolm, M. C., & **Smith, B. A.** (2023). Towards Accessible Sports Broadcasts for Blind and Low-Vision Viewers. *Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems (CHI EA '23)*. 7 pages.
Paper: https://doi.org/10.1145/3544549.3585610 Talk: https://youtu.be/kYDdWOqo76o

[EA1] Liu, Y., Ritchie, J., Kratz, S., Sra, M., **Smith, B. A.**, Monroy-Hernández, A., & Vaish, R. (2023). Memento Player: Shared Multi-Perspective Playback of Volumetrically-Captured Moments in Augmented Reality. *Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems (CHI EA '23)*. 9 pages.
Paper: https://doi.org/10.1145/3544549.3585588 Talk: https://youtu.be/AIoAWqEy0Po

[TR1] **Smith, B. A.*** and Vaish, R.* (2022). The Future of Moments in AR: Takeaways from the 2021 Snap Creative Challenge. *Technical Report, Snap Creative Challenge*.
Article: https://www.snapcreativechallenge.com/takeaways2021/
* Equal contribution

[D2] Nair, V., Ma, B., Huddleston, H., Lin, K., Hayes, M., Donnelly, M., Gonzalez, R., He, Y., & **Smith, B. A.** (2021). Towards a Generalized Acoustic Minimap for Visually-Impaired Gamers. *Proceedings of the Adjunct Publication of the 34th Annual ACM Symposium on User Interface Software and Technology (UIST '21 Adjunct)*. 3 pages.

[D1] Nair, V. & **Smith, B. A.** (2020). Toward Self-Directed Navigation for People with Visual Impairments. *Proceedings of the Adjunct Publication of the 33rd Annual ACM Symposium on User Interface Software and Technology (UIST '20 Adjunct)*. pp. 139–141.

[W1] Bi, X., **Smith, B. A.**, & Zhai, S. (2015). Keyboard Layout Optimization. *Proceedings of the CHI 2015 Workshop on Principles, Techniques, and Perspectives on Optimization and HCI.*

Book Chapters

[BC1] Bi, X., **Smith, B. A.**, Ouyang, T., & Zhai, S. (2018). Soft keyboard performance optimization. In A. Oulasvirta, P. O. Kristensson, X. Bi, & A. Howes (Eds.), *Computational interaction* (pp. 121–152). Oxford: Oxford University Press. ISBN: 9780198799610

Patents

[P36] US 12,149,490 B2: SCAN-BASED MESSAGING FOR ELECTRONIC EYEWEAR DEVICES

[P35] US 12,101,360 B2: VIRTUAL INTERACTION SESSION TO FACILITATE AUGMENTED REALITY BASED COMMUNICATION BETWEEN MULTIPLE USERS

[P34] US 12,095,846 B2: ON-DEMAND CAMERA SHARING OVER A NETWORK

[P33] US 12,088,781 B2: HYPER-CONNECTED AND SYNCHRONIZED AR GLASSES

[P32] US 12,072,489 B2: SOCIAL CONNECTION THROUGH DISTRIBUTED AND CONNECTED REAL-WORLD OBJECTS

[P31] US 2024/0185508 A1: MULTISENSORIAL PRESENTATION OF VOLUMETRIC CONTENT

[P30] US 2024/0169139 A1: CLIENT DEVICE PROCESSING RECEIVED EMOJI-FIRST MESSAGES

[P29] US 11,985,175 B2: VIRTUAL INTERACTION SESSION TO FACILITATE TIME LIMITED AUGMENTED REALITY BASED COMMUNICATION BETWEEN MULTIPLE USERS

[P28] US 11,572,921 B2: MULTISENSORIAL PRESENTATION OF VOLUMETRIC CONTENT

[P27] US 11,935,198 B2: MARKER-BASED VIRTUAL MAILBOX FOR AUGMENTED REALITY EXPERIENCES

[P26] US 2024/0069627 A1: CONTEXTUAL MEMORY EXPERIENCE TRIGGERS SYSTEM

[P25] US 2024/0069637 A1: TOUCH-BASED AUGMENTED REALITY EXPERIENCE

[P24] US 2024/0069626 A1: TIMELAPSE RE-EXPERIENCING SYSTEM

[P23] US 2024/0073404 A1: CONTROLLING AND EDITING PRESENTATION OF VOLUMETRIC CONTENT

[P22] US 2024/0073402 A1: MULTI-PERSPECTIVE AUGMENTED REALITY EXPERIENCE

[P21] US 2024/0071006 A1: MIXING AND MATCHING VOLUMETRIC CONTENTS FOR NEW AUGMENTED REALITY EXPERIENCES

[P20] US 2024/0071008 A1: GENERATING IMMERSIVE AUGMENTED REALITY EXPERIENCES FROM EXISTING IMAGES AND VIDEOS

[P19] US 2024/0071007 A1: MULTI-DIMENSIONAL EXPERIENCE PRESENTATION USING AUGMENTED REALITY

[P18] US 2024/0071004 A1: SOCIAL MEMORY RE-EXPERIENCING SYSTEM

[P17] US 11,907,638 B2: CLIENT DEVICE PROCESSING RECEIVED EMOJI-FIRST MESSAGES

[P16] US 11,888,797 B2: EMOJI-FIRST MESSAGING

[P15] US 11,880,946 B2: CONTEXT-TRIGGERED AUGMENTED REALITY

[P14] US 11,861,075 B2: PERSONALIZED EMOJI DICTIONARY

[P13] US 11,856,288 B2: REQUEST QUEUE FOR SHARED CONTROL OF CAMERA DEVICE BY MULTIPLE DEVICES

[P12] US 11,829,679 B2: SHARED CONTROL OF A VIRTUAL OBJECT BY MULTIPLE DEVICES

[P11] US 2022/0214856 A1: SHARED CONTROL OF A VIRTUAL OBJECT BY MULTIPLE DEVICES

[P10] US 2021/0105397 A1: SHARED CONTROL OF CAMERA DEVICE BY MULTIPLE DEVICES

[P9] US 20240031674 A1: REQUEST QUEUE FOR SHARED CONTROL OF CAMERA DEVICE BY MULTIPLE DEVICES

[P8] EP 4128699 A1: VIRTUAL INTERACTION SESSION TO FACILITATE TIME LIMITED AUGMENTED REALITY BASED COMMUNICATION BETWEEN MULTIPLE USERS

[P7] EP 4128704 A1: CONTEXT BASED AUGMENTED REALITY COMMUNICATION

[P6] US 2023/0043479 A1: SHORTCUT KEYPAD FOR VISUAL ELECTRONIC COMMUNICATIONS

[P5] US 2022/0337540 A1: EMOJI-FIRST MESSAGING

[P4] US 2023/0035961 A1: EMOJI RECOMMENDATION SYSTEM USING USER CONTEXT AND BIOSIGNALS

[P3] WO 2022/061362 A1: AUGMENTED REALITY AUTO REACTIONS

[P2] US 10,897,564: SHARED CONTROL OF CAMERA DEVICE BY MULTIPLE DEVICES (2021).

[P1] US 9,96,743: METHODS, SYSTEMS, AND MEDIA FOR DETECTING GAZE LOCKING (2018).

Teaching Experience *(Note: Student totals include Columbia Video Network students)*

Spring 2025 **COMS E6178: Human–Computer Interaction** (41 students)
Course eval.: 4.87 / 5 Instructor eval.: 5.00 / 5 15 responses

Fall 2024 **COMS W4170: User Interface Design** (132 students)
Course eval.: 4.36 / 5 Instructor eval.: 4.68 / 5 50 responses

Spring 2024 **COMS E6178: Human–Computer Interaction** (30 students)
Course eval.: 4.62 / 5 Instructor eval.: 4.85 / 5 13 responses

Fall 2023 **COMS W4170: User Interface Design** (155 students)
Course eval.: 4.34 / 5 Instructor eval.: 4.61 / 5 74 responses

Spring 2023 **COMS E6178: Human–Computer Interaction** (32 students)
Course eval.: 5.00 / 5 Instructor eval.: 5.00 / 5 8 responses

Fall 2022 **COMS W4170: User Interface Design** (125 students)
Course eval.: 4.38 / 5 Instructor eval.: 4.76 / 5 66 responses

Spring 2022 **COMS E6178: Human–Computer Interaction** (30 students)
Course eval.: 5.00 / 5 Instructor eval.: 4.91 / 5 11 responses

Fall 2021 **COMS W4170: User Interface Design** (150 students)
Course eval.: 4.19 / 5 Instructor eval.: 4.67 / 5 63 responses

Spring 2021 **COMS E6178: Human–Computer Interaction** (30 students)
Course eval.: 4.82 / 5 Instructor eval.: 4.82 / 5 11 responses

Fall 2020 **COMS W4170: User Interface Design** (125 students)
Course eval.: 4.58 / 5 Instructor eval.: 4.79 / 5 81 responses
★ ***Distinguished Faculty Teaching Award (Columbia Engineering)*** ★

Fall 2019 **COMS W4170: User Interface Design** (80 students)
Course eval.: 4.45 / 5 Instructor eval.: 4.79 / 5 38 responses

Pre-Faculty Teaching Experience

2009–2013 **Teaching Assistant**, Columbia University

Graduate Level Courses:

- COMS W6732: Computational Imaging (Fall 2013)
  Instructor: Prof. Shree K. Nayar
- COMS W4731: Computer Vision (Fall 2011)
  Instructor: Prof. Shree K. Nayar
  ★ ***Extraordinary Teaching Assistant Award*** ★
- COMS E6998: Advanced Game Development (Spring 2011)
  Instructor: Prof. Bernard Yee
- COMS W4995: Game Design and Production (Fall 2010)
  Instructor: Prof. Bernard Yee
- COMS E6998: Advanced Game Development (Spring 2010)
  Instructor: Prof. Bernard Yee

Undergraduate Level Courses:

- ENGI E1102: Design Fundamentals using Advanced Computer Technologies (Spring 2010)
  Instructor: Prof. Jack McGourty
- ENGI E1102: Design Fundamentals using Advanced Computer Technologies (Fall 2009)
  Instructor: Prof. Jack McGourty

2010–2012 **Co-Instructor**, Kimera, Inc. (non-profit Columbia-based startup)

- Co-instructed Bigshot Camera STEM workshops with kids in New York, India, Vietnam, and Japan.

2010 **Co-Instructor**, Center for Technology, Innovation, and Community Engagement (CTICE) STEM Club

- A hands-on afterschool program at IS 195 targeted for fifth grade students struggling in science.
- Designed curriculum and hands-on projects. Co-instructed with Guru Krishnan.

2006–2015 **Private Tutor**, New York, NY

College Level Subjects:

- COMS W4731: Computer Vision (Columbia University; Fall 2017)
- MATH 101: Concepts of Mathematics [Logic and set theory] (Nassau Commun. Col.; Summer 2017)
- MATH 125: Precalculus (Hunter College, City University of New York; Fall 2015)
- COMS W1004: Introduction to Computer Science and Programming in Java (Columbia; Spring 2014)
- ECON W1105: Principles of Economics (Columbia University; Fall 2013)
- SCNC C1000: Frontiers of Science (Columbia University; Fall 2013)
- URBS UN3200: Spatial Analysis: GIS Methods and Case Studies (Barnard College; Spring 2013)
- URBS V3562: The City in Beta: Public Participation in the Design Process (Barnard College; Fall 2012)
- MATH V1201: Calculus III (Columbia University; Fall 2012)
- SCPP BC 3335: Environmental Leadership, Ethics, and Action (Barnard College; Fall 2011)
- EESC BC1002: Environmental Science II (Barnard College; Spring 2011)
- EESC BC3014: Field Methods in Environmental Science (Barnard College; Fall 2010)
- MATH V1101: Calculus I (Columbia University; Fall 2009)
- GRE Math Prep

High School Level Subjects:

- Algebra I, Geometry, Algebra II, Pre-Calculus, Calculus I, Physics I, Chemistry I, SAT Prep
- Tutored for both English- and French-speaking high schools

Mentoring & Advising

2019–Present **Doctoral Theses, Supervisor**, Columbia University

- Gaurav Jain (Fall 2020–Summer 2025)
  - Dissertation: *Enabling Agency in Access to Visual Experiences for Blind Users*

    - Current Position: Research Scientist at Meta (2025–present)
- Vishnu Nair (Fall 2019–Spring 2025)
    - Dissertation: *Promoting Equivalent Access to Rich Digital Media by Facilitating Exploration*
    - Current Position: Forward Deployed Engineer (AI) at Accrete (2025–present)

2019–Present **Doctoral Theses, As Reader**, Columbia University unless otherwise indicated

- Erica Principe Cruz, *Counterspace Games for Refuge, Ritual, and Reclamation* (Date TBD)
    - Carnegie Mellon University
    - Advisors: Jessica Hammer and Geoff Kaufman
- Mahshid Ghasemi (Title and Date TBD)
    - Advisors: Gil Zussman and Javad Ghaderi
- Kaiyuan Hou, *Enhancing Intelligent Cyber-Physical Human Interaction by Leveraging Foundation Models for Multimodal Sensing* (Date TBD)
    - Advisor: Xiaofan (Fred) Jiang
- Bettina Schlager (Title and Date TBD)
    - Advisor: Steven K. Feiner
- Vivian Liu, *Enabling Design with AI through Interactive Techniques for Multimodal Integration* (Date TBD)
    - Advisor: Lydia B. Chilton
- Qijia Shao, *Weaving Physical and Physiological Sensing with Computational Fabrics* (July 2024)
    - Advisor: Xia Zhou
- Jen-Shuo Liu, *Precueing for Manual Tasks in Augmented and Virtual Reality* (May 2024)
    - Advisor: Steven K. Feiner
- Katy Gero, *AI and the Writer: How Language Models Support Creative Writers* (Nov 2022)
    - Advisor: Lydia B. Chilton
- Savvas Petridis, *Designing Exploratory Search Systems that Stimulate Memory and Reduce Cognitive Load* (Oct 2022)
    - Advisor: Lydia B. Chilton
- Daniel Li, *Enabling Structured Navigation of Longform Spoken Dialog with Automatic Summarization* (Sept 2022)
    - Advisor: Lydia B. Chilton
- Chang Xiao, *Extending the Boundary of Mobile Interactions* (May 2021)
    - Advisor: Changxi Zheng
- Carmine Elvezio, *XR Development with the Relay and Responder Pattern* (May 2021)
- Advisor: Steven K. Feiner

2019–Present **Current and Visiting Ph.D. Students**, Columbia University

- David van Nguyen (Fall 2024–present)
- Lisa-Maria DiSalvo Garcia (Fall 2025–present)
- Ricardo Gonzalez [visiting] (Cornell Tech; Summer 2021)
- Vivian Liu [advised while advisor was on leave] (Fall 2020–Spring 2021)

2019–Present **M.S. Theses, Supervisor**, Columbia University

- Basel Hindi, M.S., *Computer Vision Techniques for Blind and Low Vision Accessibility* (Jan 2024)
- Yuanyang (YY) Teng, M.S., *Understanding Spatial Awareness and Design Implications for Assistive and Social Technologies Situated in Space* (Feb 2023)
- Arnavi Chheda-Kothary, M.S., *Examining Techniques for Equivalent Access of Web User Interfaces for Blind and Low Vision People* (Feb 2023)
- Jay Karp, M.S., *Understanding Motivations Behind Co-Located Stranger Interactions* (May 2022)

2021–Present **M.S. Theses, As Reader**, Columbia University

- Daoxin Chen, M.S. Historic Preservation, *The Interaction between Architectural Heritage and the Public: Augmented Reality Technology in Heritage Interpretation*
    - Advisor: Halley Ramos
- Taeahn (Terry) Kwon, M.S., *Interfaces for Personalized Language Learning with Generative Language Models* (Dec 2022)
    - Advisor: Lydia Chilton
- Hui (Abby) Lu, M.S., *Private Multiparty Perception for Navigation* (August 2022)
    - Advisor: Carl Vondrick

- Ruoyu Xue, M.S., *Rope Structure Construction Based on Combining Robot Perception and Interaction* (May 2022)
    - Advisor: Shuran Song

2011–Present **M.S. Students**, Columbia University

- Tattie Chitrakorn (Fall 2024)
- Anusha Lavanuru (Fall 2024)
- Gigi Etienne (Summer 2024)
- Mingyu Xie (Spring 2023 – Fall 2023)
- Maximillian Tseng (Spring 2023 – Fall 2023)
- Zihao (Leo) Zhang (Summer 2023 – Fall 2023)
- Koushik Srinivasula (Summer 2023 – Fall 2023)
- Aditi Patil (Fall 2022 – Spring 2023)
- Peize Song (Spring 2023)
- Uttam Gurram (Spring 2023)
- Lindsey Weiskopf (Fall 2022)
- Arjun Nichani (Fall 2022)
- Maryam Aziz (Fall 2022)
- Jacqueline Gibson (Summer 2022)
- Logan Wang (Spring 2022)
- David Cho (Spring 2021 – Summer 2021)
- Yunhao Xing (Spring 2021 – Summer 2021)
- Hollis Lehv (Fall 2020 – Spring 2021)
- Samuel Silverman (Fall 2019 – Summer 2020)
- Aditi Hudli (Fall 2019)
- Julie Chien (Spring 2017)
- Ray Tsai (Spring 2017)
- Sophia Erbo Lee (Fall 2011 – Spring 2012)
- Vu Xuan Linh (Spring 2011)

2011–Present **Undergraduate Students**, including visiting students

- Merrick Wolfley (Fall 2024 – present)
- Joyce Gill (visiting from Grinnell College; Summer 2024)
- Andrea Sepúlveda-Vargas (visiting from U. Puerto Rico-Mayaguez; Summer 2024)
- Verrels Eugeneo (visiting from Pomona College; Summer 2024)
- Diogo Carrillo (visiting from Dominican University; Summer 2024)
- Ethan Chang (Summer 2023 – Spring 2024)
- Kynnedy Simone Smith (Spring 2023 – Fall 2023)
- Michael Malcolm (SUNY Albany; Summer 2021 – Summer 2023)
- David Rios (Summer 2022 – Summer 2023)
- Xinyi Xu (visiting from Pomona College; Summer 2022 – Summer 2023)
- Dan Weiner (visiting from Lehman College; Summer 2023)
- Sophie Ana Paris (visiting from NYU; Summer 2023)
- Chloe Tedjo (visiting from Texas A&M; Summer 2023)
- Josh Bassin (visiting from Penn State; Summer 2023)
- Hazel Zhu (Spring 2022 – Spring 2023)
- Alex Rupp-Coppi (Spring 2023)
- Mehr Kaur (Spring 2023)
- Avery Reyna (visiting from U. Central Florida; Summer 2022)
- Cecilia Zhang (visiting from Bryn Mawr College; Summer 2022)
- Connor Courtien (visiting from CUNY Hunter College; Summer 2022)
- Conrad Wyrick (visiting from U. Florida; Summer 2022)
- Jazmyn Jenkins (visiting from Tuskegee U.; Summer 2022)
- Carl Dobrović (Spring 2020 – Spring 2022)
- Brian Ma (Fall 2020 – Fall 2021)
- Maryam Aziz (visiting from U. Conn; Summer 2021)

- Matthew Donnelly (visiting from Bowdoin; Summer 2021)
- Mason Hayes (visiting from RIT; Summer 2021)
- Yicheng He (Spring–Summer 2021)
- Hannah Huddleston (visiting from Stanford U.; Summer 2021)
- Karen Lin (Summer 2021)
- Michael Malcolm (visiting from U Albany; Summer 2021)
- Sebastian Mercado (visiting from Fordham; Summer 2021)
- Emily Li (Spring 2021)
- Monica Lin (Fall 2020 – Spring 2021)
- Jessica Peng (Spring 2021)
- Ivy Cao (Fall 2019 – Spring 2020)
- Seok Jun Jeon (Fall 2019 – Spring 2020)
- Annie Kim (Fall 2019 – Spring 2020)
- Thé Ngo (Fall 2019 – Spring 2020)
- António Câmara (Spring 2020)
- Yiwen Gao (Spring 2020)
- Sarah Leventhal (Spring 2020)
- Benjamin Most (Spring 2020)
- Carlos Rosas (Spring 2020)
- Kenny Yuan (Spring 2020)
- Jake Bullock (Spring 2016)

2011–Present **Egleston Scholars Enhanced Advising Committee**, Center for Student Advising, Columbia Univ.

- Advised current students, recruited prospective students, and helped shape pedagogy for this comprehensive advising program for top 1% of Columbia Engineering undergraduate admits.

Students Advised (in alphabetical order):

- Eshan Agarwal, Arvind Chava, Jessica Cheng, Campbell Donnelly, Haris Durrani, Drew Feldman, Fei-Tzin Lee, Kai-Zhan Lee, Sang Jun Park, Lucas Schuermann, Steven Shao, SonYon Song, Kui Tang (Next Stop: Ph.D. student at Columbia), Morgan Thompson, James Xu, Kevin Zeng, Alek Zieba

2007–Present **Career and Professional Advising**

- Su Ji Park (B.S.; Fall 2017)
- Ian Huang (B.S.; Summer–Fall 2017; Next Stop: Intel internship)
- Daniel Sims (Research Staff; Spring–Summer 2017)
- Sam Cohen (B.S.; Spring 2016–Fall 2017)
- Chun-Yu Tsai (Ph.D.; Fall 2015; Next Stop: Facebook Research)
- Jiongxin Liu (PhD; Spring 2015; Next Stop: Google)
- Sean Pagaduan (M.F.A.; Fall 2014 & Fall 2015; Next Stop: Union Theological Seminary)
- Fiamma van Biema (B.S.; Fall 2013; Next Stop: Teachers College, Columbia U. M.A. graduate)
- Hua Papoj Thamjaroenporn (B.S.; Fall 2011; Next Stop: Ph.D. student at Columbia)
- Babawande Afolabi (B.S.; Fall 2007; Next Stops: Goldman Sachs internship, Stanford M.B.A. graduate)
- Kwesi Thomas (B.S.; Fall 2007; Next Stop: Deloitte Consulting)

University Service

2025 Columbia Faculty Delegate, Capitol Hill Meetings with Congressional Offices to advocate for science and research funding, Office of Government and Community Affairs
(Recap: https://president.columbia.edu/news/telling-our-research-story)

2025 Listening Table host, The Trust Collaboratory at Columbia University

2024 Be the First Dinner faculty attendee, First-Generation and/or Low-Income (FLI) @ Columbia, Office of Multicultural Affairs

2024 Panelist, "Awakening Our Democracy: AI in the Ballot Box," Columbia Office of University Life, co-sponsored by the Data Science Institute, Office of the Provost for Faculty Advancement, and Columbia Journalism School

	(Recap: https://www.engineering.columbia.edu/about/news/ai-elections-how-should-society-and-engineers-respond)
2024	Judge, Columbia Data Science Institute (DSI) Undergraduate Research Fair
2023	Keynote Speaker, 2023 Lavender Graduation, Office of Multicultural Affairs
2021	Panelist, Columbia LGBTQ Guide launch event, Office of the Provost
2021	Panelist, Black and Latinx/a/o Diversity Roundtable Discussion, Graduate Initiative for Inclusion and Engagement, Office of University Life
2021	LGBTQ+ Panel for Graduate Initiative for Inclusion and Engagement, Office of University Life and Office of the Provost
2020	Consultant, Columbia University LGBTQ+ Guide: Resources to Foster an Affirming Community for LGBTQ+ Faculty, Students and Staff, Office of the Provost
2020	Graduate Welcome Event panelist, Office of University Life (for incoming students of color and allies)
2020	Research Initiatives in Science and Engineering (RISE) reviewer
2019	Panelist, Black and Latinx Roundtable with Columbia Faculty, Office of the Provost

School Service

2022–Present	Columbia–Amazon Summer Undergraduate Research Experience (SURE) Program review committee
2025	Faculty Speaker, Columbia Engineering Academic Assembly (for the incoming Class of 2029)
2024	Featured Speaker, Summer High School Academic Program for Engineers (SHAPE)
2024	Featured Speaker, SURE Program Community Lunch
2023	Behnisch Site 6 planning meetings for proposed engineering building
2023	"Engineering Humanity Lab" talk to potential donor
2022	Egleston Scholars recruitment
2022	Working group member, SEAS DEI Alumni Project: "In These Hallowed Halls" (link)
2020	Co-Organizer, SEAS Path to Professorship Workshop: Perspectives on the Academic Job Search for Faculty from Diverse Backgrounds
2020	Engineer Your PhD Week panelist (orientation panel for Columbia Engineering PhD students)
2019	Panelist, SEAS Path to the Professorship Workshop: Perspectives on the Academic Job Search for Faculty from Diverse Backgrounds
2019	Participating Course Instructor: Columbia Design Challenge: Census 2020

Departmental Service

2024–Present	M.S. Machine Learning Track Advisor
2023–Present	Faculty Recruitment Committee Member
2020–Present	Diversity, Equity, and Inclusion (DEI) Steering Committee Chair
2020–Present	Diversity, Equity, and Inclusion (DEI) Coordination Committee Member
2019–Present	M.S. Admissions Committee
2024	NSF LEVEL UP Workshop participant, consolidating best practices for undergrad computing education
2022	Emerging Scholars Program (ESP) Research Day presenter
2020–2021	M.S. Bridge Program Admissions
2021	DivHacks 2021: Accessibility Panel (annual student-run hackathon)

2021	MS Visit Day Welcome Presentation
2019–2020	Ph.D. Visit Day Chair
2020	Emerging Scholars Program (ESP) Research Day presenter
2020	DivHacks 2020 panelist (annual student-run hackathon)
2020	Moderator, Columbia Design Day careers panel
2019	Application Development Initiative (ADI) CS Mentorship Professor Lunch

Professional Service

2019–Present	Steering Committee, Summer School on Computational Interaction
2025	Program Committee, ACM UIST 2025 ★ ***Special Recognition for Exceptional Reviewing*** ×2 ★
2025	Program Committee, ACM CHI 2025 ★ ***Special Recognition for Exceptional Reviewing*** ×2 ★
2024	Program Committee, ACM UIST 2024 ★ ***Special Recognition for Exceptional Reviewing*** ★
2024	Program Committee, ACM CHI 2024
2023	Session Chair, ACM CHI 2023 ★ ***Special Recognition for Exceptional Reviewing*** ★
2023	Program Committee, ACM CHI 2023
2023	Session Chair, ACM UIST 2023
2022	Program Committee, ACM CHI 2022 ★ ***Special Recognition for Exceptional Reviewing*** ×2 ★
2022	Session Chair, "AR, VR, and Games," ACM ASSETS 2022
2020–2022	Program Committee, Snap AR Creative Challenge • An annual challenge funded by Snap Inc. We convene and mentor university teams from around the world to help solve the biggest challenges around AR.
2021	Program Committee, ACM UIST 2021
2019–2020	Reviewer, NSF Graduate Research Fellowship Program (GRFP)
2019	Co-Organizer, 5th Summer School on Computational Interaction • Co-organized weeklong event w/ Prof. Xiaojun Bi of Stony Brook U. and hosted it at Columbia. • Featured 8 faculty and 29 students (many international), whose median review score was 5/5.
2019	Program Committee, ACM ETRA 2019
2019	Reviewer, National Defense Science and Engineering Graduate (NDSEG) Fellowship Program
2014–Present	Peer Reviewer for Academic Conferences & Journals *Conferences:* • ACM UIST 2014, 2015, 2016, 2019, 2020, 2021 ★ ***Special Recognition for Exceptional Reviewing*** ×2 ***(2015, 2016)*** ★ • ACM CHI 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022 ★ ***Special Recognition for Exceptional Reviewing (2017)*** ★ • ACM VRST 2017 *Journals:* • PACM Interact. Mob. Wearable Ubiquitous Technol. (2017, 2019, 2020) • Elsevier Int. J. Hum. Comp. Stud. (2016)

Public Outreach

2017–Present	Collaborator, Helen Keller Services for the Blind, Brooklyn, NY (Blind-serving non-profit)
2019–Present	Collaborator, VISIONS, New York, NY (Blind-serving non-profit)
2025	Columbia Faculty Delegate, Capitol Hill Meetings with Congressional Offices to advocate for science and research funding (Organized by Columbia's Office of Government and Community Affairs)
2025	Workshop Facilitator, "Getting Started with AI: A Hands-On Workshop for Small Business Owners," SCORE NYC Small Business Conference
2025	Member, Data Analysis Subcommittee, NYC Mayor's Retail Theft Task Force
2025	Invited Member, 125 St Business Improvement District Interagency Collaborative Meeting
2019–2024	VISIONS Work Experience Training (WET) internship program host (hosting blind students in my lab)
2021–2024	Co-Organizer: NSF REU: XR Access
2024	Regular Attendee and Presenter, Harlem Community Partners in Residence (CPR) Workshops, NSF Center for Smart Streetscapes
2024	Collaborating with 125 Street Business Improvement District on Technology Projects to Promote Safety and Tourism in Harlem
2023	Met with NYC Deputy Mayor Banks during his visit to the Center for Smart Streetscapes

Invited Talks and Panel Appearances

Aug. 2025 ***Faculty Speaker, Columbia Engineering Academic Assembly***
Columbia University, New York, NY (A class-wide orientation event for the incoming Class of 2029)

Jun. 2025 ***"Beyond Access: Meaningful Accessibility in Video Games"***
XR Access Symposium 2025, New York, NY

May 2025 ***"Getting Started with AI: A Hands-On Workshop for Small Business Owners"***
SCORE NYC Small Business Conference, New York, NY

Mar. 2025 **Guest Panelist, *Planning A4587: Urban Technologies, Innovations, and Planning Institutions***
Instructor: Anthony Vanky
Graduate School of Architecture, Planning, and Preservation, Columbia University, New York, NY

Feb. 2025 ***Guest Lecturer, CS 5968/6958: Designing Digital Health Systems***
Instructor: Vineet Pandey
University of Utah, Salt Lake City, UT

Feb. 2025 ***"Designing Computers That Work for Us"***
University of Utah Human-Centered Computing Seminar, Salt Lake City, UT

Nov. 2024 ***Keynote Presentation, "Toward Meaningful Digital Experiences"***
Borough of Manhattan Community College (BMCC) Psychology Day, New York, NY

Nov. 2024 ***"Towards Experience-Based Computing"***
Columbia University Scholars Program (CUSP) Distinguished Speaker Series 2024-2025, New York, NY

Oct. 2024 ***Panelist, "Awakening Our Democracy: AI in the Ballot Box"***
Columbia Office of University Life, co-sponsored by the Data Science Institute, Office of the Provost for Faculty Advancement, and Columbia Journalism School, Columbia University, New York, NY

Sept. 2024 ***"Towards Experience-Based Computing"***
I-SENSE Distinguished Lecture Series, Florida Atlantic University, Boca Raton, FL

Aug. 2024 ***"Toward Meaningful Computing"***
Summer High School Academic Program for Engineers (SHAPE), Columbia Engineering, New York, NY

Jun. 2024 ***"What is Meaningful Accessibility?"***
Featured Speaker, Workshop on Accessible Work and Generative AI, Univ. California, Irvine, Irvine, CA

Apr. 2024 ***"Streetscape Applications"***
NSF Center for Smart Streetscapes (CS3) Innovation Summit, Columbia University, New York, NY

Apr. 2024 ***Guest Lecturer, DM-GY 9103: Special Topics in Digital Media: Looking Forward***
Instructors: Regine Gilbert and Gus Konstandinos
New York University, New York, NY

Sep. 2023 ***Guest Lecturer, SIPA U6249: Digital Innovation for Urban Governance***
Instructor: Erika Whillas
Columbia University, New York, NY

May 2023 ***Keynote Speaker, Columbia 2023 Lavender Graduation***
Columbia University, New York, NY

May 2023 ***"Towards Inclusive Avatars: Disability Representation in Avatar Platforms"***
ACM CHI 2023, Hamburg, Germany

Nov. 2022 ***"Friendscope: Exploring in-the-moment experience sharing on camera glasses"***
ACM CSCW Northeast Meetup, New York, NY

Apr. 2022 ***"AI and New Abilities: Video Games for Blind Players"***
Emerging Scholar Research Day, New York, NY

Oct. 2021 ***"AI and New Abilities"***
Moody's Corporation, New York, NY

Oct. 2021 ***Panelist, Columbia LGBTQ Guide launch event***
Office of the Provost, Columbia University, New York, NY

Oct. 2021 ***Panelist, Black and Latinx/a/o Diversity Roundtable Discussion***
Office of University Life, Columbia University, New York, NY

Sept. 2021 ***"AI and New Abilities: Video Games for Blind Players"***
XR Access Research Network, New York, NY
Recording: https://youtu.be/NLMgPp_yMaY

Feb. 2021 ***"Designing Assistive Technologies for Agency:***
Blind-Accessible Video Games and Audio Navigation Tools"
Stanford University, Stanford, CA

Jan. 2021 **Panelist,** ***"LGBTQ+ Panel for Graduate Initiative for Inclusion and Engagement"***
Office of University Life and Office of the Provost, Columbia University, New York, NY

Nov. 2020 ***"Toward Self-Directed Navigation for People with Visual Impairments"***
Microsoft Research, Redmond, WA

Nov. 2019 ***Panelist, Black and Latinx/a/o Diversity Roundtable for Columbia Faculty***
Office of the Provost, Columbia University, New York, NY

2018 (x6) ***"Analyzing Human Behavior to Make HCI More Useful"***
- Yale University, New Haven, CT (Apr. 2018)
- Cornell University, Ithaca, NY (Apr. 2018)
- Fordham University, New York, NY (Mar. 2018)
- Johns Hopkins University, Baltimore, MD (Mar. 2018)
- Princeton University, Princeton, NJ (Mar. 2018)
- Columbia University, New York, NY (Feb. 2018)

Feb. 2018 ***"Solving 'Last Mile' Computing Problems in HCI"***
Snap, Inc., Los Angeles, CA

Jun. 2017 ***"The Bigshot Camera: A Case Study in Making Technology Educational"***
Engineering for Humanity strategic discussion forum of faculty. Columbia University, New York, NY

Sep. 2014 ***"Game Design: An Introduction"***
d:Tech NYC seminar at Cornell Tech, New York, NY.

Aug. 2010 ***"The Potential and Pitfalls of Tutoring/Mentoring and Service-Learning"***
New York Metro Area Partnership for Service Learning (NYMAPS) panel, New York, NY.

Jul. 2010 ***"Composting"***
Summer Youth Employment Program (SYEP) lecture. NYC Dept. Parks and Recreation, New York, NY.

Jul. 2010 ***"Alternative Fuel Vehicles"***
Summer Youth Employment Program (SYEP) lecture. NYC Dept. Parks and Recreation, New York, NY.

Jul. 2010 ***"Static Forces"***
WINgineering (Women in Engineering) summit. NYC Dept. Parks and Recreation, New York, NY.

Jul. 2010 ***"Youth and Cybersecurity"***
Moderated focus group in partnership with NGO. East West Institute, New York, NY.

Media Appearances

2025 *"**Center for Smart Streetscapes: Technology Co-Design Workshop"***
Columbia Engineering
https://youtu.be/YmfMpfhSuYc

2024 ***"AI in Elections: How Should Society—and Engineers—Respond?"***
Columbia Engineering
https://www.engineering.columbia.edu/about/news/ai-elections-how-should-society-and-engineers-respond

2024 ***"The Future of AI: Opportunities and Dangers Explored"***
Soul Lounge Primetime on WHCR 90.3 FM
https://www.youtube.com/live/Oh28NS-fZu4?si=xEpyVnvs5F9NV4--

2023 ***"The pro gamer who has to rely upon sound alone"***
BBC News
https://www.bbc.com/news/business-67565435

2023 ***"Exploring Inclusive Technology, Access for All"***
Columbia Engineering
https://www.engineering.columbia.edu/news/summer-project-and-beyond-exploring-inclusive-technology-access-for-all

2022 ***"Ask Us Anything: Brian Smith Highlights"***
Columbia Engineering
https://youtu.be/bsUzos3VEuE

2020 *"**In Iran, one in five infected by coronavirus"*** (my interview on teaching during COVID begins at 16:50)
BBC World Service
https://www.bbc.co.uk/programmes/w3cszccy

2018 **InnerSpace *TV interview***
Space Channel
https://www.space.ca/show/innerspace/clip/rad/1373695/1027/

2018 ***"A Need for Speed: Accessible Gaming"***
The Pulse on AMI Audio
https://www.stitcher.com/podcast/the-pulse-on-amiaudio/e/53957938

2018 ***"These technologies are improving video-game accessibility for the blind"***
Quartz
https://qz.com/quartzy/1467802/video-game-technology-improving-accessibility-for-the-blind

2018 ***"Racing Auditory Display helps blind people play racing games as well as the sighted"***
VentureBeat
https://venturebeat.com/games/racing-auditory-display-helps-blind-people-play-racing-games-as-well-as-the-sighted/

2018 ***"RAD is a new system to help the visually impaired play racing games"***
TechCrunch
https://techcrunch.com/2018/03/08/rad-is-a-new-system-to-help-the-visually-impaired-play-racing-games/