Hanyi Xu

61 Claremont Ave, 820
New York, NY, 10115, USA

Phone 315-640-9091
E-mail xuhanyi2025@gmail.com
Website hanyixu.com
ORCID 0009-0002-0257-3630

My research examines how interactive media shape users' stress, motivation, and well-being. I study when enjoyable experiences become demanding and how design can support both engagement and restoration. My master's thesis applies the Interactivity-as-Demand framework and builds skills in experimental design, computational modeling, and large-scale text analysis. I aim to expand this work in my doctoral studies.

Education

Columbia University, New York, NY — Aug. 2024 – Feb. 2026
M.A. in Quantitative Methods in the Social Sciences

- **GPA:** 3.92/4.00
- **Thesis:** "Why Games Stop Feeling Fun: A Computational Approach to Emotional Demand in Play" [DOI: 10.7916/3mm4-3482]; Advisor: Dr. Gregory Kossinets
- **Coursework:** Machine Learning in Social Science, Data Analysis, Data Visualization, Quantitative Research Theory

Syracuse University, Syracuse, NY — Aug. 2020 – May 2024
B.S. in Advertising

- **GPA:** 3.45/4.00 (Cum Laude)
- **Coursework:** Media Planning, Digital Social Media, Communications Theory, Advertising Capstone

Research Experience

Graduate Research Assistant, Language and Cognitive Neuroscience Lab — May 2025 – Feb. 2026
Teachers College, Columbia University – New York, NY

- Develop automated sLORETA EEG analysis scripts using Python and MNE for 24 subjects to enable real-time 3D brain visualization.
- Design a configurable data pipeline supporting diverse cognitive tasks, including direction, size, and cardinality assessments.
- Operate EEG and eye-tracking instrumentation to facilitate rigorous data collection and maintain optimal signal quality.
- Analyze complex cognitive neuroscience concepts within a journal reading group to identify and apply relevant research methodologies.

Graduate Research Assistant, Cognitive Media Lab — Oct. 2024 – May 2025
UCSD/Columbia University – New York, NY

- Program and implement digital surveys to facilitate large-scale data collection for social research.
- Execute statistical analyses using Python and SPSS to model complex relationships via multiple regression and group comparisons.
- Evaluate socioeconomic and demographic correlations to identify systemic barriers to healthcare access.
- Author and revise manuscript sections to communicate findings for peer-reviewed publication.

Undergraduate Research Assistant, Meaningful Math Research Group Apr. 2023 – May 2024
Syracuse University – Syracuse, NY

- Investigated the impact of social justice themes on critical thinking, identity, and academic engagement in precalculus students.
- Employed mixed methods (interviews and surveys) to gather and analyze data from 58 students at a predominantly white institution.
- Facilitated community events for "The Data Warriors" youth research program to foster community engagement.
- Synthesized qualitative data into academic manuscripts and presented findings at conferences including PME-NA 2024.

Undergraduate Research Assistant, The Sharpe Lab Feb. 2022 – May 2022
Syracuse University – Syracuse, NY

- Applied qualitative research methodologies and ethical protocols to effectively study high school student attitudes toward teaching.
- Facilitated on-site focus groups and conducted semi-structured interviews to gather primary qualitative data.
- Analyzed interview transcripts to identify key thematic patterns regarding educational perspectives.
- Synthesized research findings to contribute to final project analysis and group discussions.

Manuscripts and Publications

[1] **Xu, H.**, Raja, W., Boutros, E., Wu, Q., & Fonger, N. L. (2024). Emotions in social justice mathematics: Students' experience from a college precalculus classroom. In K. W. Kosko, J. Caniglia, S. A. Courtney, M. Zolfaghari, & G. A. Morris (Eds.), *Proceedings of the 46th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 956–961). Kent State University.

[2] Boutros, E., Wu, Q., **Xu, H.**, & Fonger, N. L. (2023). Making mathematics meaningful: How learning about local social injustices develops undergraduate students' identity, intellect, skill, and criticality. *The Crown: Syracuse Undergraduate Research Journal*, *1*, Article 16.

Conference Presentations

[1] **Xu, H.** (2026, May). *Demand overload: How game mechanics trigger stress and reduce enjoyment*. Poster submitted to the APS Annual Convention, Barcelona, Spain.

[2] Rhee, V., Chen, Z., Gushiken, Y., Bakhru, K., **Xu, H.**, Bisbee, N., Li, Y., Tang, J. E., & Gordon, P. (2026, March). *Electrophysiological and behavioral indices of numerical perception and cognition*. Poster accepted for presentation at the Annual Meeting of the Cognitive Neuroscience Society, Vancouver, Canada.

[3] **Xu, H.** (2024, April). *Making mathematics meaningful: A mixed-methods study of undergraduate students' learning through social justice*. Paper presented at the ACC Meeting of the Minds Conference, South Bend, IN.

[4] Boutros, E., Fonger, N. L., Wu, Q., & **Xu, H.** (2023, December). *Making mathematics meaningful: How learning about local social injustices develops undergraduate students' identity, intellect, skill, and criticality*. Paper presented at the SOURCE Fall Research Expo, Syracuse University, Syracuse, NY.

[5] Boutros, E., Fonger, N. L., Wu, Q., & **Xu, H.** (2023, October). *Enhancing students' inclusion and belonging by developing meaningful mathematics literacy in the place we now call home*. Paper presented at the D.E.I.A. Symposium, Syracuse University, Syracuse, NY.

[6] Boutros, E., Fonger, N. L., Wu, Q., & **Xu, H.** (2023, August). *Making mathematics meaningful: How learning about local injustices develops undergraduate students' criticality, identities, intellect, skill, and emotion*. Poster presented at the SOURCE Symposium, Syracuse University, Syracuse, NY.

Teaching Assistantship

Natural Language Processing Social Sciences, Columbia University (QMSS GR5067): Spring 2025, Summer 2025, Fall 2025
First Year Seminar, Syracuse University (FYS 101): Fall 2022, Fall 2023
AEW for Calculus II, Syracuse University (ECS 116): Fall 2021

Professional Experience

Account Executive Intern Jun. 2024 – Aug. 2024
BlueFocus – Shanghai, China

- Coordinate workflow and timeline management for the Sony Camera Line Promotion across RED and Bilibili platforms.
- Streamline internal communication by synthesizing client feedback to accelerate article production and monitor traffic.
- Analyze market share performance of new releases using Power BI to inform strategic campaign adjustments.
- Execute project initiation, finalization, and contract documentation to ensure compliance with internal procedures.

Marketing and Media Intern Jun. 2023 – Aug. 2023
Boathouse Group Inc – Waltham, MA

- Led media optimization analysis for the Story District Promotion Campaign within a collaborative five-person team.
- Analyzed social media metrics and competitor data to accurately assess campaign effectiveness.
- Developed comprehensive content calendars and designed performance KPIs to track engagement goals.
- Produced a strategic media plan selected by the client over competing proposals.
- Delivered data-driven recommendations to enhance PR strategy and utilized Hub tools for project management.

Associate Producer Mar. 2023 – May 2024
Orange Television Network – Syracuse, NY

- Directed visual storytelling, crew training, and on-set operations for the TV program *Psych vs. Star*.
- Managed post-production quality control, including title design and final cut supervision, to ensure broadcast standards.
- Developed and maintained production schedules to ensure timely project delivery.
- Executed single-camera production logistics for *Loud and Clear*, handling camera operation and site management.

Project

Cloudburst Prediction Model Jan. 2025 – May 2025
Columbia University – New York, NY

- Develop a predictive software prototype to provide early warnings for urban cloudbursts and enhance disaster preparedness.

- Analyze heterogeneous datasets, including satellite imagery and sensor readings, using Python to detect precipitation anomalies.
- Train ensemble machine learning models, including Random Forest and Gradient Boosting, to forecast 6-hour rainfall intensity.
- Visualize complex meteorological data through interactive dashboards built with Plotly and Plotnine for stakeholder reporting.
- Coordinate development lifecycles and version control via GitHub to maintain code integrity across the team.

Capstone Project: CARE Advertising Campaign Jan. 2024 – May 2024
Syracuse University – Syracuse, NY

- Formulated a comprehensive advertising strategy for the non-profit organization CARE to expand donor engagement among Gen Y audiences[cite: 408].
- Leveraged GWI and Nielsen Commspoint databases to analyze market trends and optimize a $10,000 media budget[cite: 422, 541, 642].
- Designed an 8-week multi-channel placement plan across social and digital platforms to project over 360,000 impressions.
- Established performance KPIs to track donor conversion rates and social media engagement growth[cite: 537].
- Generated creative visual assets and pitched the final brand strategy to stakeholders to demonstrate campaign viability[cite: 664].

Technologies

Programming & Data Tools: Python, R, HTML, GitHub, MAXQDA
Marketing & Analytics Platforms: GWI, MRI Simmons, Nielsen Commspoint
Productivity & Office Tools: Microsoft Excel (certified in 2022), PowerPoint, Word; Apple Pages, Numbers, and Keynote; Google Workspace; Miro
Design & Media Tools: Adobe Photoshop, Premiere Pro, Canva
Computer Systems: Experienced user of Macintosh and Windows operating systems, with working knowledge of Linux and command-line interface (CLI) operations

Licenses & Certifications

Human Subjects Protection SBR, CITI Program Aug. 2025 – Aug. 2028
Credential ID: 71361914

FDA-Regulated Research, CITI Program Aug. 2025
Credential ID: 71361915

Research With Minors SBR, CITI Program Aug. 2025
Credential ID: 71361916

Microsoft Office Specialist: Excel 2019 Associate, Microsoft Nov. 2022
Credential ID: n28K-Dwo5

Language

Chinese (Mandarin): Native
English: Fluent

Last updated in February 2026