

Yang Liu, Ph.D.

Assistant Professor of Computer Information Systems,  
School of Business, North Carolina Central University,

Office: School of Business, Room 309 | Office Phone: 919-530-5276 | Cell: 336-501-8270

Email: yliu8 (at) nccu.edu | [Google Scholar](#) | Page: <https://yanghenryliu.github.io>

Mail: 1801 Fayetteville Street, Durham, NC, 27707

## EDUCATION

---

**North Carolina Agricultural and Technical State University (NC A&T)**

Greensboro, NC, USA

Ph.D. in Computer Science (2024)

M.S. in Computer Science (2020)

B.S. in Electrical Engineering (2018)

**Henan Polytechnic University (HPU)**

Jiaozuo, Henan, CHINA

B.E. in Electrical Engineering and Automation (2018)

## PROFESSIONAL EXPERIENCE

---

**North Carolina Central University (NCCU)**

Durham, NC, USA

*Associate Director*, Laboratory for Artificial Intelligence and Equity Research (LAIER), Oct. 2024 - present

*IBM-HBCU Quantum Center Faculty Fellow*, Aug. 2024 – present

*Duke Power Endowed Professor*, Aug. 2024 – present

*Tenure-track Assistant Professor*, Computer Information Systems Department, July 2024 – present

**IBM HBCU Quantum Center (IHQC)**

Washington, DC, USA

*Faculty Fellow*, Aug. 2024 - present

*Research Scholar*, Aug. 2021 – July 2024

**North Carolina A&T State University**

Greensboro, NC, USA

*Graduate Teaching Assistant*, Computer Science Department, Aug. 2020 – May 2024

*Graduate Research Assistant (RA)*, Human-Centered AI (HCAI) Lab, Aug. 2018 – May 2024

*Graduate Research Assistant*, Quantum Computing Research Center <QC|RC>, Sep. 2020 – May 2024

*Lecture*, Computer Science Department, Jan. 2023 – May 2023

*Undergraduate RA*, Secure & Usable Social Media & Networks (SUSMaN) Lab, May 2017 – May 2018

## TEACHING

---

## North Carolina Central University

### *Assistant Professor*

Fall 2024 – present

CIS 1100 – 03 Business Computer Applications

Undergraduate course, 2 hours

CIS 2400 – 01 Fundamentals of Information Systems.

Undergraduate course, 3 hours

CIS 2400 – 02 Fundamentals of Information Systems

Undergraduate course, 3 hours

## North Carolina A&T State University

### *Lecturer*

Spring 2023

COMP 161 – Python for Data Science (Course Evaluation: **4.45/5.00**)

Undergraduate course, 3 hours

### *Graduate Teaching Assistant*

Fall 2020 – Spring 2024

COMP 161 – Python for Data Science

Undergraduate course, 3 hours

COMP 163 – Introduction to Computer Programming

Undergraduate course, 3 hours

COMP 360 – Programming Languages

Undergraduate course, 3 hours

Quantum Information Science and Engineering (QISE) Undergraduate Scholar Program

BIOL 490 – Introduction of Quantum Computing (BIOL 490)

Undergraduate course, 1 hours

COMP 621 – Web Security

Graduate course, 3 hours

COMP 841– Deep Learning

Graduate course, 3 hours

## RESEARCH HISTORY, ACCOMPLISHMENTS, & INTEREST

---

Generative AI with Natural Language Processing (NLP) focus, Machine Learning / Deep Learning for Pandemic Surveillance in Public Health, Artificial Intelligence, Social Media Mining, Human-Computer Interaction (HCI), Internet of Things (IoT), Quantum Computing and Quantum Natural Language Processing

## GRANTS AND EXTERNAL FUNDING

- 
1. **Duke Power Endowed Professor (2024 - 2025).** *School of Business, NCCU. Amount: \$40,000.*
  2. **Principal Investigator (2024 - 2025).** *IBM-HBCU Quantum Research Center, Amount: \$100,000.*

## ADVISEMENT / MENTORING

---

- 6 Undergraduate Students, 4 STEM Early College Students for National Science Foundation (NSF) Research Experiences for Undergraduates (REU) in Data Science Research Mentor (Summer 2020, 2021 & 2022) - 2 Students, North Carolina School of Science and Mathematics (NCSSM)

## PUBLICATIONS

---

### Thesis and Dissertation

**Master Thesis:** Liu, Y. (2020). A Comparative Study of Vector Space Language Models for Sentiment Analysis Using Reddit Data.

**Doctoral Dissertation:** Liu, Y. (2024). Pandemic Surveillance Using Social Media Data, Natural Language Processing, and Machine Learning.

### Journal Publications

- J1. Liu, Y., Whitfield, C., Zhang, T., Hauser, A., Reynolds, T., & Anwar, M. (2021). Monitoring COVID-19 pandemic through the lens of social media using natural language processing and machine learning. *Health Information Science and Systems*, 9(1), 1-16.
- J2. Liu, Z., Hu, J., Liu, Y., Roy, K., Yuan, X., & Xu, J. (2023). Anomaly-based Intrusion on IoT networks using AIGAN-a Generative Adversarial Network. *IEEE Access*.
- J3. Luitel, S.\*, Liu, Y.\*, & Anwar, M. (2024). Investigating fairness in machine learning-based audio sentiment analysis. *AI and Ethics*, 1-10. **\*Equal Contribution**
- J4. Whitfield, C.\*, Liu, Y.\*, & Anwar, M. (2024). Impact of COVID-19 Pandemic on Social Determinants of Health Issues of Marginalized Black and Asian Communities: A Social Media Analysis Empowered by Natural Language Processing. *Journal of Racial and Ethnic Health Disparities*, 1-16. **\*Equal Contribution**

### Peer-reviewed Conference Publications

- C1. Vaughn, A., Biocco, P., Liu, Y., & Anwar, M. (2018, July). Activity detection and analysis using smartphone sensors. In *2018 IEEE International Conference on Information Reuse and Integration (IRI)* (pp. 102-107). IEEE.
- C2. Whitfield, C., Liu, Y., & Anwar, M. (2021, August). Surveillance of COVID-19 pandemic using social media: a reddit study in North Carolina. In *Proceedings of the 12th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics* (pp. 1-8).
- C3. Almousa, M.\*, Liu, Y.\*, Zhang, T.\*, & Anwar, M. (2021, July). A Study on Online Businesses' Commitment to Consumer Privacy. In *International Conference on Human-Computer Interaction* (pp. 391-402). Springer, Cham. **\*Equal Contribution**

- C4. Liu, Y., & Anwar, M. (2022, September). Learning Programming in Social Media: An NLP-powered Reddit Study. In 2022 *International Conference on Transdisciplinary AI (TransAI)*. IEEE.
- C5. Liu, Y., Yue, Z., & Anwar, M. (2022, November). Monkeypox At-a-glance from Google Trends and Reddit. In 2022 IEEE/ACM international conference on Connected Health: Applications, Systems and Engineering Technologies (*CHASE*).
- C6. Aldrich, B., Liu, Y., Almousa, M., & Anwar, M. (2023) Translating Keystroke and Mouse Dynamics data to Classify Human Mood. In 2023 International Conference on Transdisciplinary AI (TransAI). IEEE.
- C7. Liu, Y., & Anwar, M. Exploring Twitter Dataset for Understanding Public Sentiment during COVID-19 Pandemic. Accepted by the 23rd International Conference on Intelligent Software Methodologies, Tools, and Techniques. [*Accepted*]
- C8. Luitel, S., Liu, Y., & Anwar, M. Audio Sentiment Analysis with Spectrogram Representations and Transformer Models. Accepted by AIxSET 2024: IEEE International Conference on AI x Science, Technology, and Technology. [*Accepted*]
- C9. Davis, B., Liu, Y., & Anwar, M. A. Repository of Metadata-related Threats and Mitigation Strategies to Enhance Security in Smart Homes. Accepted by AIxSET 2024: IEEE International Conference on AI x Science, Technology, and Technology. [*Accepted*]
- C10. Zhang, T., Jiang, Z., Bai, S., Zhang, T., Lin, L., **Liu, Y.**, & Ren, J. RAG4ITOps: A Supervised Fine-Tunable and Comprehensive RAG Framework for IT Operations and Maintenance. Accepted by EMNLP 2024.

## RECENT AFFILIATION/ COLLABORATIONS

---

- Member, IEEE
- Member, ACM
- Faculty Fellow, IBM-HBCU Quantum Center (IHQC)
- Associate Director of the Laboratory for Artificial Intelligence and Equity Research (LAIER), NCCU

## HONORS / AWARDS / RECOGNITION

---

- |   |                       |
|---|-----------------------|
| • Duke Power Endowed Professor Award                          | Aug. 2024             |
| • IBM-HBCU Quantum Center (IHQC) Faculty Fellowship           | Aug. 2024             |
| • Outstanding Senior Graduate Research Assistant Award        | Apr. 2024             |
| • IEEE Region 3 Student Professional Activities Service Award | Mar. 2024             |
| • NSF Student Travel Award                                    | Nov. 2022             |
| • NC A&T Rising Graduate Scholar                              | Apr. 2022             |
| • Graduate Teaching Assistantship                             | Aug. 2020 - May. 2021 |

- Graduate Research Assistantship

Aug.  
2018  
-  
May.  
2024

- Magna Cum Laude

May  
.2018

- Undergraduate Research Graduation Cords Award

May

**CERTIFICATIONS / BADGES**

.2018

Oct.  
2024

Oct.  
2024

Oct.  
2024

- IBM Z Day 2024 – AI & Data Certificate

Sep.  
2024

- IBM Z Day 2024 – IBM Z Skills Certificate

- IBM Z Day 2024 – Security Certificate

- The 4th Annual Data Literacy: Closing the Great Data Literacy Gap

Aug

- 2024 IBM Qiskit Global Summer School – The Path to Utility

.2024

- Refresh & Revive Training Series: Introduction to Canvas

- Quantum Noir 2024 at Harvard University

- IBM Quantum Challenge 2024 Achievement

Aug

- 2022 IBM Qiskit Global Summer School – Quantum Simulation

.2024

- Elsevier Fundamentals of Peer Review Certificate

4

Jun.  
202  
4

Jun.  
202  
4

Aug.  
202  
2

May.  
2022

- NVIDIA Deep Learning Institute (DLI) Fundamentals of Deep Learning Certificate Mar. 2022
- Virtual Regional I-Corps Program Certificate Feb. 2022
- CodePath Certified Intermediate Software Engineering Dec. 2021
- NVIDIA DLI Certification on Transformer-Based NLP Applications Apr. 2021
- Recognition of Outstanding Academic Achievement May. 2018

## **SERVICES / PROFESSIONAL ACTIVITIES**

---

### **Institutional Services**

#### **North Carolina Central University (NCCU)**

- Assisted in hosting the IT/Cybersecurity Summit at NCCU

#### **North Carolina School of Science and Mathematics (NCSSM)**

- Academic research mentor for NCSSM Durham Mentorship Program

#### **North Carolina A&T State University**

##### *University Level:*

- Represented Quantum Computing Research Center <QC|RC> at Howard University Research Month, 2024
- Represented the <QC|RC> at Quantum Noir 2024 at Harvard University
- Represented the <QC|RC> at the Faculty Outreach for Quantum Invested Universities (FOQUS) Program for HBCU and MSI faculty engaged in quantum information science at Brookhaven National Lab, 2024

*College Level:*

- College of Engineer PhD student representative on the Associate Dean for Research search (2023)

*Department Level:*

- PhD student representative on the computer science department faculty search (2022, 2023, 2024)
- PhD student representative on the computer science department chair search (2023)

**Invited Speaker**

*Speaker:* Computing Resources for Research. Virtual Faculty Workshop on Cybersecurity Curriculum at NC A&T State University, Sep. 2022.

*Speaker:* An Exploratory Study of Quantum Natural Language Processing for Sentence Classification. IBM HBCU Quantum Center Symposium at Howard University, Apr. 2024.

**Activity Organizer**

*Host* for 2022 Triad Programming Contest Apr. 2022

*Host* for QISE Workshop for HBCU Faculty Dec. 2022

**Program Committee**

2025 Association for the Advancement of Artificial Intelligence Undergraduate Consortium (AAAI-UC)  
IEEE International Conference on AI for Business (AIxB 2024)  
IEEE International Conference on AI for Humanities, Education, and ART (AIxHEART 2024)  
IEEE International Conference on AI for Science, Engineering, and Technology (AIxSET 2024)  
The 28th International Conference on Asian Language Processing (IALP 2024)  
IEEE International Conference on Information Reuse and Integration for Data Science (IRI 2024)  
IEEE International Conference on Information Reuse and Integration for Data Science (IRI 2023) IEEE  
International Conference on Transdisciplinary AI (TransAI 2023)

**Reviewer for Conference and Journal.** Thirteenth International Conference on Learning Representations (ICLR) 2025, Reviewer for Neural Information Processing Systems (NeurIPS) 2024, Ethics Reviewer NeurIPS (2023, 2024), American Public Health Association (APHA) Public Health Film Festival Program 2024, ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM-BCB), International Conference on Big Data Mining and Information Processing (BDMIP), IEEE Internet Computing, Journal of Medical Internet Research (JMIR) Publications, JMIR Medical Education, JMIR Aging, IEEE Access, Connection Science, AI and Ethics.

**Presentations at Conference.** IEEE International Conference on Information Reuse & Integration (IRI '18), ACM International Conference on Bioinformatics, Computational Biology and Health Informatics (ACMBCB'21), IEEE Transdisciplinary Artificial Intelligence Conference (TransAI'22, TransAI'23),

IEEE/ACM International Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE'22), International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET'24), IEEE International Conference on AI x Science, Technology, and Technology (AIXSET'24).

October. 2024