Ismini Lourentzou

Assistant Professor, Computer Science | Perception + LANguage (PLAN) Lab @ VT

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Research Interests

Machine Learning, Computer Vision, Natural Language Processing: self-supervision, robustness, multimodal representation learning with applications to vision and language, e.g., embodied AI, video understanding, medical imaging, language grounding, etc.

Education

2013-2019 **Ph.D. Computer Science**, *University of Illinois at Urbana - Champaign (UIUC)*, Urbana, Illinois.
2010-2013 **B.S. Computer Science**, *Athens University of Economics and Business (AUEB)*, Athens, Greece.
2003-2009 **B.S. Business Administration**, *University of West Attica*, Athens, Greece.

Work Experience

2021-present **Assistant Professor**, *Computer Science,Virginia Tech*, Blacksburg, VA.
2021-present **Core Faculty Member**, *Sanghani Center for Artificial Intelligence and Data Analytics, Virginia Tech*.
2022-present **Affiliate Faculty**, *National Security Institute, Virginia Tech*.
2021-present **Affiliate Faculty**, *Center for Advanced Innovation in Agriculture (CAIA), Virginia Tech*.
2019-2020 **Research Scientist**, *IBM Research, Intelligence Augmentation Team*, San Jose, CA.
2018, 2017 **Summer Research Intern**, *IBM Research, Intelligence Augmentation Team*, San Jose, CA.
2015 **Summer Research Intern**, *Microsoft Research, Machine Teaching group*, Seattle, WA.

Honors and Awards

May 2023 **Outstanding New Assistant Professor Award**, College of Engineering | Virginia Tech
April 2023 **Celebrating Innovation Certificate**, VT Innovation & Partnerships (LINK+LICENSE+LAUNCH)
Dec. 2022 **Outstanding Reviewer** NeurIPS 2022 Datasets and Benchmarks
Dec. 2022 Nominated for a VT Graduate Alumni Advising Award. *Ineligible; less than 3 calendar years advising experience.*
Dec. 2020 **Outstanding Reviewer**, Empirical Methods in Natural Language Processing (EMNLP) 2020
Dec. 2019 **IBM Invention Plateau Award**, IBM Research
Oct. 2019 **Rising Stars in EECS 2019**
Fall 2017 **Outstanding Teaching Assistant Award**, Computer Science | UIUC

Funding

TOTAL FUNDS: $4,049,983 PERSONAL SHARE: $1,946,484

2023-2024 **Amazon Science: Diffusion-based Scene-Graph-Enabled Embodied AI Agents**, Award: $80,000, Sole-PI, Amazon - Virginia Tech Initiative for Efficient and Robust Machine Learning.

2023-2026 **DARPA ECOLE: Symbiotic Curriculum-based Human-aided OnLine Agent (SCHOLA)**, Award: $1,590,242 (VT portion), VT PI with Systems & Technology Research (STR), Virginia Tech, and Aptima.

2023-2024 **VT SEC Big Contribution: Multimodal Explainable AI Models for Clinical Reasoning**, Award: $6,500, Sole-PI, VT Foundation gift from the Student Engineers' Council at Virginia Tech.

2023-2024 **Amazon Alexa Prize: Contextualized and Knowledge-grounded Multimodal Taskbot**, Award: $250,000, Sole-PI (Faculty Advisor). 1 out of 10 teams competing in the Amazon Alexa Prize TaskBot Challenge 2.

2023-2024 **Commonwealth Cyber Initiative (CCI): Assuring Trustworthy and Secure Human-AI Collaboration to Strengthen America's Civil Infrastructure: A Virtual Reality Prototype**, Award: $60,000, Co-PI with collaborators from Virginia Tech and William & Mary.

2022-2023 **Amazon Science: Toward Unified Multimodal Conversational Embodied Agents**, Award: $100,000, Sole-PI, Amazon - Virginia Tech Initiative for Efficient and Robust Machine Learning.

2022-2024 **NSF EAGER CoFedAI: Cost-sensitive Federated AI for Smart Manufacturing Data-Sharing**, Award: $300,000, PI with collaborators from Virginia Tech Industrial and Systems Engineering Department.

2022-2024 **DARPA KMASS: INformation, Context and Expertise Preservation for Task-Oriented Recommendations (INCEPTOR)**, Award: $1,586,741 (VT portion), Co-PI with collaborators from Systems & Technology Research (STR), Virginia Tech and University of California Santa Barbara.

2022-2023 **Commonwealth Cyber Initiative (CCI): High Accuracy Automatic Code Repair**, Award: $75,000, Co-PI with from Virginia Tech Computer Science collaborators.

2022-2024 **VT New Faculty Mentoring Grant**, Award: $1,500, Sole-PI, Virginia Tech.

Publications, Preprints & Patents

Journal Publications

[1] Sai Gurrapu, Ajay Kulkarni, Lifu Huang, Ismini Lourentzou, and Feras A Batarseh. Rationalization for explainable nlp: A survey. ***Frontiers in Artificial Intelligence***, **2023**.

[2] Mohammad Hesam Soleimani-Babakamali‡, Roksana Soleimani-Babakamali, Rodrigo Sarlo, Mohammed F. Farghally, and Ismini Lourentzou. On the effectiveness of dimensionality reduction for unsupervised structural health monitoring anomaly detection. ***Mechanical Systems and Signal Processing (MSSP)***, **2023**.

[3] Mohammad Hesam Soleimani-Babakamali‡, Reza Sepasdar, Kourosh Nasrollahzadeh, Ismini Lourentzou, and Rodrigo Sarlo. Toward a general unsupervised novelty detection framework in structural health monitoring. ***Computer-Aided Civil and Infrastructure Engineering***, **2022**.

[4] Tre Tomaszewski, Morales Alex, Ismini Lourentzou, Bing Liu, Alan Schwartz, Rachel Caskey, and Jessie Chin. Identifying the False Human Papillomavirus (HPV) Vaccine Information and Corresponding Risk Perceptions from Twitter Using Advanced Predictive Models. ***Journal of Medical Internet Research (JMIR)***, **2021**.

[5] Alexandros Karargyris, Satyananda Kashyap, Ismini Lourentzou, Joy Wu, Arjun Sharma, Matthew Tong, Shafiq Abedin, David Beymer, Vandana Mukherjee, Elizabeth A Krupinski, et al. Creation and Validation of a Chest X-Ray Dataset with Eye-tracking and Report Dictation for AI Tool Development. ***Nature Scientific Data***, **2021**.

[6] Michael Jeffrey Volk, Ismini Lourentzou, Shekhar Mishra, Lam Tung Vo, Chengxiang Zhai, and Huimin Zhao. Biosystems Design by Machine Learning. ***ACS Synthetic Biology***, **2020**.

[7] Nicole M Brown, Ruby Mendenhall, Michael Black, Mark Van Moer, Karen Flynn, Malaika McKee, Assata Zerai, Ismini Lourentzou, and ChengXiang Zhai. In Search of Zora/When Metadata Isn't Enough: Rescuing the Experiences of Black Women Through Statistical Modeling. ***Journal of Library Metadata***, **2019**.

Conference Proceedings

[1] Muntasir Wahed‡, Xiaona Zhou‡, Tianjiao Yu‡, and Ismini Lourentzou. Fine-grained alignment for cross-modal recipe retrieval. In *Proceedings of the IEEE/CVF* ***Winter Conference on Applications of Computer Vision (WACV)***, **2024**.

[2] Muntasir Wahed‡, Daniel Gruhl, and Ismini Lourentzou. Marble: Hierarchical multi-armed bandits for human-in-the-loop set expansion. In *Proceedings of the 32nd ACM International* ***Conference on Information and Knowledge Management (CIKM)***, **2023**.

[3] Amarachi B Mbakwe‡, Lyuyang Wang, Mehdi Moradi, and Ismini Lourentzou. Hierarchical vision transformers for disease progression detection in chest x-ray images. In *Proceedings of the 26th International Conference on* ***Medical Image Computing and Computer-Assisted Intervention (MICCAI)***, **2023**.

[4] Ola Karajeh‡, Ismini Lourentzou, and Edward A Fox. Multi-view graph-based text representations for imbalanced classification. In *Proceedings of the 27th International Conference on* ***Theory and Practice of Digital Libraries (TPDL)***, **2023**.

[5] Tianjiao Yu‡, Sukrit Venkatagiri, Ismini Lourentzou, and Kurt Luther. Sedition Hunters: A Quantitative Study of the Crowdsourced Investigation into the 2021 US Capitol Attack. In *Proceedings of the* ***ACM Web Conference (The WebConf)***, **2023**.

[6] Md Mahim Anjum Haque, Wasi Uddin Ahmad, Ismini Lourentzou, and Chris Brown. FixEval: Execution-based Evaluation of Program Fixes for Programming Problems. In *Proceedings of the IEEE/ACM International Workshop on* ***Automated Program Repair(APR)***, **2023**.

[7] Parshin Shojaee, Muntasir Wahed‡, Yingyan Zeng, Avi Seth‡, Ran Jin, and Ismini Lourentzou. A Task-Driven Privacy-preserving Data-sharing Framework For Industrial Internet. In *Proceedings of the* ***IEEE International Conference on Big Data (IEEE BigData)***, **2022** `[top-10 most highly scored accepted papers]`.

[8] Amarachi Mbakwe‡, Gaurang Karwande‡, Joy T. Wu, Leo Antony Celi, Mehdi Moradi, and Ismini Lourentzou. CheXRelNet: An Anatomy-Aware Model for Tracking Longitudinal Relationships between Chest X-Rays. In *Proceedings of the 25th International Conference on* ***Medical Image Computing and Computer Assisted Intervention (MICCAI)***, **2022**.

[9] Xavier Pleiming‡, Vedant Shah‡, and Ismini Lourentzou. [Data] Quality Lies On The Eyes Of The Beholder. In *Proceedings of the 15th ACM Conference on* ***PErvasive Technologies Related to Assistive Environments (PETRA)***, **2022**.

[10] Arkin R Dharawat‡, Ismini Lourentzou, Alex Morales, and Chengxiang Zhai. Drink Bleach or Do What Now? Covid-HeRA: A Dataset for Risk-informed Health Decision Making in the Presence of COVID19 Misinformation. In *Proceedings of the 16th International* ***AAAI Conference on Web and Social Media (ICWSM) Datasets***, **2022**.

[11] Joy T Wu, Nkechinyere Nneka Agu, Ismini Lourentzou, Arjun Sharma, Joseph Alexander Paguio, Jasper Seth Yao, Edward Christopher Dee, William G Mitchell, Satyananda Kashyap, Andrea Giovannini, et al. Chest ImaGenome Dataset for Clinical Reasoning. In *Proceedings of the 39th* ***Neural Information Processing (NeurIPS) Datasets & Benchmarks***

Track, **2021**.

[12] Muntasir Wahed‡, Daniel Gruhl, Alfredo Alba, Anna Lisa Gentile, Petar Ristoski, Chad Deluca, Steve Welch, and Ismini Lourentzou. SAUCE: Truncated Sparse Document Signature Bit-Vectors for Fast Web-Scale Corpus Expansion. In *Proceedings of the 30th ACM* ***Conference on Information and Knowledge Management (CIKM)***, **2021**.

[13] Nkechinyere N. Agu, Joy T. Wu, Hanqing Chao, Ismini Lourentzou, Arjun Sharma, Mehdi Moradi, Pingkun Yan, and James Hendler. AnaXNet: Anatomy Aware Multi-label Finding Classification in Chest X-ray. In *Proceedings of the 24th International Conference on* ***Medical Image Computing and Computer Assisted Intervention (MICCAI)***, **2021**.

[14] Safa Messaoud, Ismini Lourentzou, Assma Boughoula, Mona Zehni, Zhizhen Zhao, Alexander Schwing, and ChengXiang Zhai. DeepQAMVS: Query-Aware Hierarchical Pointer Networks for Multi-Video Summarization. In *Proceedings of the 44th International* ***ACM SIGIR Conference on Research and Development in Information Retrieval***, **2021**.

[15] Ismini Lourentzou, Daniel Gruhl, Alfredo Alba, Anna Lisa Gentile, Petar Ristoski, Chad Deluca, Steven R Welch, and Chengxiang Zhai. AdaReNet: Adaptive Reweighted Semi-supervised Active Learning to Accelerate Label Acquisition. In *Proceedings of the 14th ACM Conference on* ***PErvasive Technologies Related to Assistive Environments (PETRA)***, **2021**.

[16] Sahiti Labhishetty, Ismini Lourentzou, Michael Jeffrey Volk, Shekhar Mishra, Huimin Zhao, and Chengxiang Zhai. TriGORank: A Gene Ontology Enriched Learning-to-Rank Framework for Trigenic Fitness Prediction. In *Proceedings of the IEEE International Conference on* ***Bioinformatics and Biomedicine (BIBM)***, **2021**.

[17] Ismini Lourentzou, Kabir Manghnani‡, and ChengXiang Zhai. Adapting Sequence to Sequence Models for Text Normalization in Social Media. In *Proceedings of the 13th International* ***AAAI Conference on Web and Social Media (ICWSM)***, **2019**.

[18] Ismini Lourentzou, Anna Lisa Gentile, Daniel Gruhl, Jane Fortner, Michele Freemon, and Kendra Grande. Difficult Relations: Extracting Novel Facts from Text. In *Proceedings of the 17th International* ***Semantic Web Conference (ISWC) P&D/Industry/BlueSky Track***, **2018**.

[19] Chase Geigle, Ismini Lourentzou, Hari Sundaram, and ChengXiang Zhai. CLaDS: A Cloud-based Virtual Lab for the Delivery of Scalable Hands-on Assignments for Practical Data Science Education. In *Proceedings of the 23rd Annual ACM Conference on* ***Innovation and Technology in Computer Science Education (ITiCSE)***, **2018**.

[20] Ismini Lourentzou, Alfredo Alba, Anni Coden, Anna Lisa Gentile, Daniel Gruhl, and Steve Welch. Mining Relations from Unstructured Content. In *Proceedings of the 22nd* ***Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)***, **2018**.

[21] Ismini Lourentzou, Daniel Gruhl, and Steve Welch. Exploring the Efficiency of Batch Active Learning for Human-in-the-loop Relation Extraction. In *Companion Proceedings of the 27th International* ***World Wide Web Conference (The WebConf)***, **2018**.

[22] Sophie Lohmann, Ismini Lourentzou, Chengxiang Zhai, and Dolores Albarracín. Who is Saying What on Twitter: An Analysis of Messages with References to HIV and HIV Risk Behavior. ***Acta de investigación psicológica***, **2018**.

[23] Ismini Lourentzou, Alex Morales, and Chengxiang Zhai. Text-based Geolocation Prediction of Social Media Users with Neural Networks. In *Proceedings of the 5th* ***IEEE International Conference on Big Data (IEEE BigData)***, **2017**.

[24] Man-pui Sally Chan, Ismini Lourentzou, Alex Morales, Chengxiang Zhai, and Dolores Albarracín. What are the Differences in HIV-related Social Communications in Counties with Low (vs. High) Socio-economic Status in the United States? A Thematic Analysis of Social Media Data. ***American Public Health Association (APHA) Annual Meeting***, **2016**.

[25] Ruby Mendenhall, Nicole Brown, Michael L Black, Mark Van Moer, Ismini Lourentzou, Karen Flynn, Malaika Mckee, and Assata Zerai. Rescuing Lost History: Using Big Data to Recover Black Women's Lived Experiences. In *Proceedings of the 5th* ***Extreme Science and Engineering Discovery Environment (XSEDE) Conference on Diversity, Big Data, and Science at Scale***, **2016**.

[26] Ismini Lourentzou, Graham Dyer‡, Abhishek Sharma‡, and Chengxiang Zhai. Hotspots of News Articles: Joint Mining of News Text & Social Media to Discover Controversial Points in News. In *Proceedings of the 3rd* ***IEEE International Conference on Big Data (IEEE BigData)***, **2015**.

[27] Stamatina Thomaidou, Ismini Lourentzou, Panagiotis Katsivelis-Perakis, and Michalis Vazirgiannis. Automated Snippet Generation for Online Advertising. In *Proceedings of the 22nd ACM* ***Conference on Information & Knowledge Management (CIKM)***, **2013**.

[28] Spyridon Stathopoulos, Ismini Lourentzou, Antonia Kyriakopoulou, and Theodore Kalamboukis. IPL at CLEF 2013 Medical Retrieval Task. In *Proceedings of the 4th* ***Conference and Labs of the Evaluation Forum (CLEF)***, **2013**.

Editorials, Preprints (in review/preparation), etc.

[1] Amarachi B Mbakwe‡, Ismini Lourentzou, Leo Anthony Celi, and Joy T Wu. Fairness metrics for health AI: we have a long way to go. ***eBioMedicine (Editorial)***, **2023**.

[2] Amarachi B Mbakwe‡, Ismini Lourentzou, Leo Anthony Celi, Oren J Mechanic, and Alon Dagan. ChatGPT passing USMLE shines a spotlight on the flaws of medical education. ***PLOS Digital Health (Editorial)***, **2023**.

[3] Ying Shen[‡] and Ismini Lourentzou. Learning by Asking for Embodied Visual Navigation and Task Completion. ***arXiv:2302.04865***, **2023**.

[4] Muntasir Wahed[‡], Afrina Tabassum[‡], and Ismini Lourentzou. Adversarial Contrastive Learning by Permuting Cluster Assignments. *arXiv preprint* ***arXiv:2204.10314***, **2022**.

[5] Afrina Tabassum[‡], Muntasir Wahed[‡], Hoda Eldardiry, and Ismini Lourentzou. Hard Negative Sampling Strategies for Contrastive Representation Learning. *arXiv preprint* ***arXiv:2206.01197***, **2022**.

Patents

[1] Ismini Lourentzou, Anna Lisa Gentile, Daniel Gruhl, Alfredo Alba, Petar Ristoski, Chad Eric DeLuca, Linda Ha Kato, Chris Kau, and Steven R Welch. **US20200380311A1: Collaborative information extraction**, January 10 2023. US Patent 11,551,437.

[2] Petar Ristoski, Anna Lisa Gentile, Daniel Gruhl, Alfredo Alba, Chris Kau, Chad DeLuca, Linda Kato, Ismini Lourentzou, and Steven R Welch. **US20200097602A1: User-centric ontology population with user refinement**, February 28 2023. US Patent 11,593,419.

[3] Anna Lisa Gentile, Chad Eric DeLuca, Petar Ristoski, Ismini Lourentzou, Linda Ha Kato, Alfredo Alba, Daniel Gruhl, and Steven R Welch. **US20220300709A1: Transforming a lexicon that describes an information asset**, May 9 2023. US Patent 11,645,464.

[4] Daniel Gruhl, Anna Lisa Gentile, Petar Ristoski, Linda Ha Kato, Chad Eric DeLuca, Steven R Welch, Alfredo Alba, and Ismini Lourentzou. **US11416562B1: Corpus expansion using lexical signatures**, August 16 2022. US Patent 11,416,562.

[5] Ismini Lourentzou, Daniel Gruhl, Steven R Welch, Chad Eric DeLuca, Alfredo Alba, Linda Ha Kato, Petar Ristoski, and Anna Lisa Gentile. **US20220101188A1: Identifying similarity matrix for derived perceptions**, March 31 2022. US Patent App. 17/038,126.

[6] Anna Lisa Gentile, Anni R Coden, Ismini Lourentzou, Daniel Gruhl, Chad Eric DeLuca, Petar Ristoski, Linda Ha Kato, Chris Kau, Steven R Welch, Alfredo Alba, et al. **US20210034704A1: Identifying Ambiguity in semantic resources**, July 5 2022. US Patent 11,379,669.

[7] Ismini Lourentzou, Anna Lisa Gentile, Daniel Gruhl, Alfredo Alba, Chris Kau, Chad DeLuca, Linda Kato, Petar Ristoski, and Steven R Welch. **US11151175B2: On-demand relation extraction from text**, October 19 2021. US Patent 11,151,175.

[8] Petar Ristoski, Daniel Gruhl, Alfredo Alba, Anna Lisa Gentile, Ismini Lourentzou, Chad Eric DeLuca, Linda Ha Kato, Steven R Welch, and Chris Kau. **US11030402B2: Dictionary expansion using neural language models**, June 8 2021. US Patent 11,030,402.

Teaching Experience

Fall 2023 **CS6604 Embodied Artificial Intelligence**, *Computer Science* | *Virginia Tech*.

Spring 2023 **CS5824 Advanced Machine Learning**, *Computer Science* | *Virginia Tech*.

Fall 2022 **CS5824 Advanced Machine Learning**, *Computer Science* | *Virginia Tech*.

Fall 2021 **CS5604 Information Retrieval**, *Computer Science* | *Virginia Tech*.

Spring 2021 **CS6604 Data Challenges in Machine Learning**, *Computer Science* | *Virginia Tech*.

Fall 2017 **Guest Lecture, CS510 Advanced Topics in Information Retrieval**, *Computer Science* | *UIUC*.
Instructor: Prof. ChengXiang Zhai. Lecture on Introduction to Deep Learning.
Presentation slides used in courses at University of Idaho, IIT Delhi, Seoul National University, and Saarland University.

Fall 2016 **Guest Lecture, CS591 Text Mining Seminar**, *Computer Science* | *UIUC*.
Instructor: Prof. ChengXiang Zhai. Lecture on Long Short-Term Memory Neural Networks (LSTMs).

Fall 2018, Fall 2017, Fall 2016 **Teaching Assistant, CS410DSO Text Information Systems**, *Computer Science* | *UIUC*.
Instructor: Prof. ChengXiang Zhai. Head TA for FA2018 and FA2017.
Outstanding Teaching Assistant Award in FA2017 (also nominated in FA2018, award not given to previous recipients)

Spring 2017 **Teaching Assistant of CS410 Text Information Systems**, *Computer Science* | *UIUC*.
Instructor: Prof. ChengXiang Zhai. Upper-level undergraduate course in Text Informatics.

Fall 2013 **Teaching Assistant, CS125 Introduction to Computer Science**, *Computer Science* | *UIUC*.
Instructor: Prof. Craig Zilles. Introductory course for CS majors.

Invited Talks, Selected Media Coverage & Outreach

- **UMass CIIR Series** Invited Talk on Robust Visual Understanding with Limited Supervision, March 2023.
- **Systems and Technology Research (STR)** Invited Talk on Robust Visual Understanding with Limited Supervision, January 2023.

- **Critical Care Data Analysis Summit** Invited Talk on Multimodal Explainable AI Models for Clinical Reasoning, November 2022.
- **INFORMS 2022** Session Talk on Task-Driven Privacy-preserving Data-sharing for Industrial Internet, October 2022
- **Virginia Tech Statistics Dept. Colloquium** Invited Talk on Adversarial Robustness in Contrastive Learning, October 2022.
- **ACM PETRA 2022** Keynote on Supervision Signals for Machine Learning in Healthcare and Beyond, July 2022.
- **AI-ready Healthcare** Podcast Episode on Chest ImaGenome, August 2022.
- **VT Text & Data Mining Community of Practice Seminar** Invited Talk on Chest ImaGenome for Clinical Reasoning, April 2022.
- **Women in STEM (W-STEM) Mentoring Seminar** Presentation slides, March 2022.
- **University of North Texas** Invited Talk on Data Quality in Deep Learning, November 2021.
- **New journal article examines vaccination misinformation on social media.** EurekAlert News Release, October 2021.
- **CXR Dataset with Eye-Tracking and Report Dictation.** Springer Nature Behind The Paper Blog, March 2021.
- **Lourentzou awarded NSF grant to develop infrastructure for more effective AI in U.S. manufacturing industry** Shanghani
- **Amazon and Virginia Tech announce inaugural fellowship and faculty research award recipients** Amazon Science
- **National Science Foundation Where Discoveries Begin Research News** Rescued History NSF News, February 2016.

Academic Service

Workshop Co-Chair	Neural Information Processing Systems (NeurIPS) 2023
Expo Co-Chair	Neural Information Processing Systems (NeurIPS) 2022
Vice Program Chair	IEEE International Conference on Big Data (IEEE BigData) 2023
Organizing Committee	Gaze Meets ML Workshop @NeurIPS 2022
Assoc. Chair	ACM Conference on Pervasive Technologies Related to Assistive Environments (PETRA) 2021, 2023, & 2024
Section Editor	PLOS Digital Health - Medical Computer Vision Section
Area Chair	Annual Meeting of the Association for Computational Linguistics (ACL) 2023 International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2023
PhD Cons/tium Chair	ACM Conference on Pervasive Technologies Related to Assistive Environments (PETRA) 2022
NSF	Cyber-Physical Systems (CPS) 2021 Panel Future Manufacturing (FM) 2022 Panel NSF SBIR/STTR 2023 Panel
Virginia Tech	Industrial & Systems Engineering Dept. Manufacturing Analytics and AI Faculty Search Committee 2024 College of Engineering Rolls-Royce Chair Professor Position Faculty Search Committee 2024 Computer Science Tenured-Track Faculty Search Committee 2022 & 2023 (+Diversity Advocate) Data and Information Ph.D. Qualifying Examination Committee Spring 2021 & 2022 ML/Data Course Offerings Reorganizing Committee 2022
Session Chair	Conference on Neural Information Processing Systems (NeurIPS) 2022 ACM Conference on Pervasive Technologies Related to Assistive Environments (PETRA) 2021 Conference on Information and Knowledge Management (CIKM) 2020 Applied Track International AAAI Conference on Web and Social Media (ICWSM) 2019
Program Committee	AAAI Conference on Artificial Intelligence (AAAI) 2021, 2022 and 2023 ACM International Conference on Multimodal Interaction (ICMI) 2023 International AAAI Conference on Web and Social Media (ICWSM) 2019, 2020, and 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP) 2020 and 2021 and 2022 Annual Meeting of the European chapter Association for Computational Linguistics (EACL) 2021 Annual Meeting of the Association for Computational Linguistics (ACL) 2020, 2021 Asia-Pacific Chapter of the Association for Computational Linguistics and International Joint Conference on Natural Language Processing (AACL-IJCNLP) 2020 and 2022 North American Chapter of the Association for Computational Linguistics (NAACL-HLT) 2021 Conference on Information and Knowledge Management (CIKM) Applied Track 2020, 2021 and 2022 The Web Conference (TheWebConf, formerly WWW) 2021 and 2022 International ACM Conference on Web Science (WebSci) 2020, 2021 and 2022 Extended Semantic Web Conference (ESWC) 2020, 2021 and 2022 International Conference on Knowledge Capture (K-CAP) 2021 *[Emergency Reviewer]*

Workshop Program Committee
IEEE Robotic Computing - Workshop on Computational Human-Robot Interaction (CHRI) 2023
MICCAI Workshop on Medical Image Learning with Limited and Noisy Data (MILLanD) 2022 and 2023
ICLR Workshop on Geometrical and Topological Representation Learning 2022
NeurIPS Workshop on Topological Data Analysis and Beyond (TDA) 2020
Data-Efficient Machine Learning (DeMaL) Workshop at TheWebConf (DeMaL@WebConf) 2021
DeMaL at the Knowledge Discovery and Data Mining Conference (DeMaL@KDD) 2021
Augmenting Intelligence with Humans-in-the-Loop at TheWebConf (HuML@WebConf) 2018

Reviewer
Winter Conference on Applications of Computer Vision 2024
International Conference on Learning Representations (ICLR) 2022, 2023, and 2024
International Conference on Machine Learning (ICML) 2021, 2022, and 2023
Neural Information Processing Systems (NeurIPS) 2022 and 2023
Neural Information Processing Systems (NeurIPS) Datasets & Benchmarks Track 2022 and 2023
Learning on Graphs Conference 2022
Association for Computational Linguistics (ACL) Rolling Reviewer 2021

Journal Reviewer
ACM Transactions on Knowledge Discovery from Data (TKDD)
ACM Transactions on Intelligent Systems and Technology (TIST)
IEEE Transactions on Automation Science and Engineering (ASE)
ASME Journal of Manufacturing Science and Engineering
Semantic Web journal
Computer Speech & Language
BMJ Health & Care Informatics
Frontiers in Cardiovascular Medicine
Data Mining and Knowledge Discovery

Open-sourced Software

MICCAI'22 **CheXRelNet** model for tracking disease progression.
AAAI-ICWSM'22 **Covid-HeRA: Health Severity Misinformation** benchmark dataset.
NeurIPS'21 **Chest ImaGenome Dataset** anatomy-aware scene-graph multimodal data for clinical reasoning.
Nature SciData'21 **Interpretable Chest X-Ray Classification** with eye-gaze data for guiding saliency maps.
ICWSM'19 **Text Normalization** pre-trained models & code.
IEEE BigData'17 **Text-based Geolocation Prediction** with neural model architectures.
IEEE BigData'15 **Controversy Detection** news scoring model.
PURE@UIUC'15 **TopicalPhraseMiningGraph** for discovering topical phrases with a graph traversing algorithm.

Advising/Mentoring Activities

Outreach Activities
HackIllinois 2023 Mentor
VT Center for the Enhancement of Engineering Diversity (CEED) AI In Manufacturing for Pathways For Future Engineers Workshop 2023
VT Center for the Enhancement of Engineering Diversity (CEED) Galipatia Slush Rush 2023
VT Center for the Enhancement of Engineering Diversity (CEED) Women's Preview Weekend Dinner 2022
VTHacks 2021 Hackathon Judge
Culminating project 2021, 12th-grade student Andrew Zhang (Commonwealth Governor's School of Virginia)
PURE: Promoting Undergraduate Research in Engineering (6 students, Fall 2014 - Spring 2015), CS | UIUC
CS Graduate Ambassador (Spring 2014, Spring 2015, Spring 2016, Spring 2017, Spring 2019), CS | UIUC

PLAN Lab @VT
Perception + LANguage Lab, (co-)advising 15 Ph.D., 3 M.S., and 2 undergraduate students.
- Amazon Alexa Prize TaskBot Challenge 2 Finalists.
- Ph.D. student Ying Shen received a 2023 Amazon-VT Fellowship.
- Ph.D. student Makanjuola Ogunleye received a 2022 Cadence Diversity in Technology Scholarship.
- Ph.D. student Muntasir Wahed received a VT Pratt Fellowship for Spring and Fall 2023.
- Four students have been departmental nominees for industrial fellowships: (1) Microsoft Research Ph.D. Fellowship (Amarachi B. Mbakwe in 2022 and Afrina Tabassum in 2021), (2) Google Ph.D. Fellowship (Amarachi B. Mbakwe in 2022, Ying Shen in 2022, and Makanjuola Ogunleye in 2021), and (3) TwoSigma Ph.D. Fellowship (Ying Shen in 2022 and Amarachi B. Mbakwe in 2022).