

# Beiyu Lin

## Curriculum Vitae

Google scholar link

Assistant Professor  
Department of Computer Science  
The University of Oklahoma  
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Website: <https://beiyulincs.github.io/>

## Education

- 2016-2020 **PhD, Computer Science**, Center for Advanced Studies in Adaptive Systems, Washington State University, Pullman, WA, Advisor: Diane J. Cook.  
Topic: Population-level behavior analysis based on smart environment sensor data
- 2013-2015 **Master of Science in Mathematics**, Washington State University, Pullman, WA.
- 2011-2013 **Master of Science in Applied Math**, State University of New York, Stony Brook, NY.
- 2007-2011 **Bachelor of Science in Math and Applied Math**, Shanghai Maritime University, China.

## Professional Experience

- 1/2024-now **Assistant Professor (tenure-track)**, Computer Science, University of Oklahoma.  
**Affiliate Faculty Member**, Data Institute for Societal Challenges, OU.  
**Affiliate Faculty Member**, Institute for Community and Society Transformation, OU.
- 8/21-12/23 **Assistant Professor (tenure-track)**, Computer Science, University of Nevada-Las Vegas.  
**Affiliate Faculty Member**, Nevada Center for Astrophysics, UNLV.
- 8/2020-2021 **Assistant Professor (tenure-track)**, Computer Science, University of Texas-Rio Grande Valley.
- 2015-2020 **Graduate Research Assistant**, Electrical Engineering and Computer Science, WSU.
- Summer 2019 **Software Engineer Intern**, Dell EMC, Seattle, WA.  
Wrote an analytic application of sensor data from cars in Brisbane, Australia. This application ingested streaming data, analyzed and predicted the traffic flow. The visualization is an hourly-based heat-map with location markers. When users click a marker, a bar chart will pop up with the predicted traffic flow.
- Summer 2019 **Instructor**, School of Electrical Engineering and Computer Science, WSU.
- Summer 2018 **Software Engineer Intern**, Honeywell, Atlanta, GA.  
Worked on the Honeywell Aerospace Development Team for Low Altitude Authorization and Notification Capability Unmanned Aircraft System Service Supplier. Used Python and JavaScript to develop Honeywell USS Product, including developing data/user interface and authorization service. Helped out other projects, including flight plane engine, edge to cloud, memory leak and dashboard.
- 2014-2015 **Instructor**, Department of Mathematics, WSU.
- 2013-2014 **Teaching Assistant**, Department of Mathematics, WSU.

## Honors and Awards

- 1/2022 People Choice Award for Young Professional Poster Competition, IEEE Rising Stars.
- 4/2021 Best Applied Data Science Paper Award, SIAM International Conference on Data Mining (SDM). (SDM is one of the top 4 data mining conferences.)
- 2020 Nomination for Graduate Student Instructor Excellence Award (a university-wide), GPSA, WSU.
- 2019 2<sup>nd</sup> Place, 3-Minute Thesis Competition, Voiland College of Engineering & Architecture.
- 2019 The Computer Science Department Representative to Compete Three Minutes Thesis.
- 2018 Our paper was highlighted at IEEE Journal of Biomedical and Health Informatics (impact score 6.98).

- 2014 Award for Excellence Teaching Assistant (a university-wide), Graduate & Professional Students Association.
- 2011 Award for Outstanding Undergraduate Thesis, Shanghai Maritime University.
- 2010 Volunteer Star of the World Expo. International Registered Exhibitions, Shanghai, China.
- 2010 Three Good Student, Shanghai Maritime University
- 2009 Outstanding Individual of China Ocean Shipping Company, Shanghai Maritime University.
- 2009 Excellent Summer Practice Paper Award, Shanghai Maritime University.
- 2009 Outstanding Counselor Assistant of the Year, Shanghai Maritime University.

## Scholarships (as a student)

- 2020 Professional Development Grants (funded by graduate & professional student association).
- 2020 Knowledge Discovery and Data Mining (KDD) (student registration award funded by NSF and SIGKDD).
- 2020 ACM Conference on Recommender Systems (registration fee waived).
- 2019 SIAM International Conference on Data Mining (funded by NSF and Intel), Canada.
- 2019 ACM-IMS Interdisciplinary Summit on the Foundations of Data Science (funded by NSF), CA.
- 2019 Grace Hopper Celebration of Women in Computing (registration fee was funded by GHC), FL.
- 2019 Analytics and Data Summit (registration fee was funded by Oracle Academy), CA.
- 2019 Strata Data Conference (funded by O'Reilly Media), CA.
- 2018 Google I/O, Mountain View, CA.
- 2017 Google Summer of Code Mentor Summit, Sunnyvale, CA.
- 2017 Grace Hopper Celebration (funded by Computer Science Department at WSU), FL.
- 2015 Mathematical Science Research Institute: Summer School on Incompressible Fluid Flows, CA.
- 2015 The Institute for Mathematics and its Applications: Workshop for Women in Analysis and PDE, MN.
- 2010-2011 2<sup>nd</sup> Class Scholarship, Shanghai Maritime University.
- 2009-2010 2<sup>nd</sup> Class Scholarship, Shanghai Maritime University.
- 2007-2008 3<sup>rd</sup> Class Scholarship, Shanghai Maritime University..

## Grant Writing (my part awarded as PI and co-PI: \$376,105.0, total awarded amount: \$660,633.0)

- 10/2023 Co-PI & Managing Director: Preproposal for AI Institute for Astronomical Sciences, NSF.
- 7/2023 (Sole) PI: Reducing Disparities in Care for Parkinson's Disease in Rural Areas: Speech Representations Learning through Wearable Computing, Google.
- 4/2023 **Awarded** co-PI: FOA: Harnessing Big Data to Optimize Green Infrastructure Resource Allocation for the Improvement of Human Health Outcomes, UNLV, PI: Xiwei Shen and Grant Mosey, \$34,000.
- 4/2023 Collaborator: FOA AI-Enabled Unmanned Aerial System for Real-Time Wildfire Detection, UNLV.
- 12/2022 (Sole) PI: Postdoc Fellowship application, UNLV.
- 10/2022 (Sole) PI: AI for Alzheimer's disease, collaborate with College of Nursing at UNLV, NIH R21.
- 9/2022 (Sole) PI: Transfer Learning for Small Sample Data, Center for Advancing Safety of Machine Intelligence.
- 9/2022 **Awarded** (Sole) PI: Postdoc Fellowship application, UNLV. \$27,221 from Provost' Office, \$10,000 from college, remaining on my own.
- 9/2022 (Sole) PI: REU: Undergraduate Research in Machine Learning and Its Applications, NSF.
- 8/2022 **Awarded** PI: Artificial Intelligence based Auditory Scene Identification. Graduate Faculty Top Tier Doctoral Graduate Research Assistantship (TTDGRA), UNLV, 3-year RAships \$102,750.
- 8/2022 PI: A Deep Learning-based Genetic Model for Classifying Psychiatric Disorders, Graduate Faculty Top Tier Doctoral Graduate Research Assistantship (TTDGRA), UNLV.

- 8/2022 Co-PI: Educational Proposal, Clare Boothe Luce Scholar Program. PI: Mei Yang; Co-PI: Jaci Batista.
- 7/2022 **Awarded** (Sole) PI: Google exploreCSR, *unrestricted gift, \$32,000.*
- 7/2022 (Sole) PI: Hands-on-Training for College Students in Nevada STEM Program, Nevada NASA HE-HOT.
- 7/2022 (Sole) PI: Artificial Intelligence for Precision Medicine in Rare Genetic Diseases, NIPM, UNLV.
- 7/2022 (Sole) PI: Plasma Wave Activity Recognition, *NIAC NASA.*
- 5/2022 **Awarded** (Sole) PI: Plasma Wave Activity Recognition, *One page summary for QEM/NASA, \$2,000 travel support.*
- 5/2022 PI: Iterative Design of Visual Analytics of Mobility during Transitions of Care for Older Adults, *Pre-application to Department of Energy.*
- 5/2022 PI: Management and Storage for Weather Data, *Pre-application to Department of Energy.*
- 4/2022 **Awarded** (Sole) PI: Artificial Intelligence based Auditory Scene Identification, *Faculty Opportunity Awards, UNLV Internal. \$19,991*
- 4/2022 **Awarded** (Sole) PI: Early detection of hearing loss, *Troesh Center for Entrepreneurship and Innovation Research Grants, UNLV Internal. \$5,000*
- 4/2022 **Awarded** Collaborator: Improving PolySubstance Use Measurement – Refinement and pilot-testing of a web-based Timeline FollowBack survey to capture self-report, event-level polysubstance use, *Faculty Opportunity Awards, UNLV Internal. PI: Dr. Timothy J. Grigsby, Department of Social and Behavioral Health; \$17,380.*
- 3/2022 (Sole) PI: full proposal: human-in-the-loop plasma wave activity recognition, *NASA R3 CAN. .*
- 1/2022 **Awarded** Co-PI: Acquisition of Connected Autonomous Vehicles (CAV) Infrastructure to Support Cooperative Human-Robot Driving and Pedestrian Safety, *NSF MRI, \$377,291.*
- 1/2022 (Sole) PI: letter of intent: human-in-the-loop plasma wave activity recognition, *NASA R3 .*
- 1/2022 Co-PI: RII Track-2 FEC: AI-Integrated Soft Devices and Robotics for Future Manufacturing, *EPSCoR Track II .*
- 12/2021 Co-I: Upper-room ultraviolet germicidal irradiation in elementary schools and the impact on SARS-CoV-2 and influenza pathogen levels, *NIH R21. .*
- 12/2021 Co-PI: Bridges between Differential Equations and Machine Learning in Epidemiological Modeling, *NSF Computational Math. .*
- 11/2021 Co-PI: A summary page for: Federal Procurement Performance Measurement Framework, *Center for Accelerating Operational Efficiency (CAOE). .*
- 02/2021 Co-PI: GAANN fellowships in Computer Science at UTRGV, *Education Proposal. .*
- 01/2021 PI: Understanding behavior differences between people with Alzheimer's disease and healthy populations, *Pilot Study Program for the Rio Grande Valley Alzheimer's Disease.*
- 01/2021 Collaborator: Robust human trajectory prediction and anomalous event detection,
- 10/2020 Letter of Intent: Understanding behavior differences between people with Alzheimer's disease and healthy populations, *Pilot Study Program for the Rio Grande Valley Alzheimer's Disease. (Letter of Intent was selected and invited to the next step: submit a full proposal.)*
- 10/2020 PI: Adaptive System for Web pages based on Mouse Movement Patterns, *Salesforce Research.*
- 10/2020 PI: Towards Adaptive Systems: Learning Human Behavior via Ambient Data, *Internal Proposal for Oak Ridge Associated Universities.*
- 10/2020 Co-PI: Towards Human-Robot Collaboration in Warehouses: Behavior Modeling via Multimodal Ambient Sensing, *Amazon Research. .*
- 09/2020 Co-PI: Engineering Research Center for Trustworthy Human and Intelligent Vehicle Collaborations, *NSF. .*
- 09/2020 **Awarded** PI: Modeling Human Routine Behavior via Deep Inverse Reinforcement Learning, *Google Cloud, \$1,500.*

08/2020 **Awarded** PI: Google exploreCSR, *Google Research*, \$18,000 (event website).

\* 128 students (out of 760 applications; 17% acceptance rate) participated in the workshop.

\* 9 interns (7 females) participated in a 2-month research program mentored by 4 faculty.

\* 5 interns (4 females) joined the graduate school in computing.

## Teaching Experience (clicking the eval score will lead to the course evaluation files)

Fall 23 Instructor, Intro to Data Mining, UNLV (in person, 70 undergraduates and graduates)

Fall 23 Instructor, Data Structure, UNLV (in person, 40 undergraduates)

Spring 23 Instructor, Data Structure, UNLV (in person, 20 undergraduates) eval: 4.25/5

Spring 22 Instructor, Mining Internet of Things Data, UNLV (in person, 20 graduates) eval: 4.67/5

Fall 21 Instructor, Intro to Data Mining, UNLV (online, 30 undergraduates and graduates) eval: 4.78/5

Spring 21 Instructor, Computer Science I (C++), UTRGV (online, 50 undergraduates) eval: 4.83/5

Spring 21 Instructor, Computational Behavior Modeling, UTRGV (online, 50 undergraduates) eval: 4.49/5

Fall 20 Instructor, Computer Science I (C++), UTRGV (45 undergraduates; online) eval: 4.51/5

Fall 20 Instructor, Seminar in Computer Science, UTRGV (27 graduates; online) eval: 4.48/5

Summer 19 Instructor, Program Design and Development in C, WSU (10 undergraduates)

Summer 15 Instructor, College Algebra, WSU (over 30 undergraduates)

Fall14/Spring15 Instructor, Mathematics for Business and Economics, WSU (over 90 undergraduates)

## Students

Spring 2024 Serve as Master's Non-Thesis Exam Committee for James Miller in Computer Science.

Fall 2023 Serve as an advisor for 2 Ph.D., 1 M.S., 4 B.S.

Summer 2023 Serve as an advisor for 2 Ph.D., 1 M.S., 6 B.S. (1 visiting), 2 high schoolers

*\*submitted 6 papers;*

*\*3 awarded undergraduate students for summer research fellowship;*

*\*1 awarded student with KDD travel award and GPSA award.*

Spring 2023 Serve as an advisor for 1 Postdoc, 2 Ph.Ds, 1 M.S., 4 B.S. (1 visiting)

Fall 2022 Serve as an advisor for 4 visiting students, 4 undergraduates, 1 graduate to do research

*\*published 3 poster/demo papers to ACM/IEEE SEC'22;*

*\*2 awarded student travel support from SEC;*

*\*submitted 1 full paper to journal: Biocybernetics and Biomedical Engineering*

Summer 2022 Serve as an advisor for 4 visiting students and 1 graduate to do summer research

*\*submitted 2 full paper and 1 student abstract to AAAI'23;*

*\*submitted 2 student research competitions to ACM SIGSPATIAL'22.*

Summer 2022 Serve as Ph.D.'s Thesis Committee for Maggie McMullin in Psychology

Summer 2022 Serve as Ph.D.'s Thesis Committee for Hannah Williams in Computer Science

Summer 2022 Serve as Master's Thesis Committee for Nicholas Lower in Computer Science

Summer 2022 Serve as Master's Thesis Committee for Paul Stanik in Computer Science

Spring 2022 Serve as Ph.D.'s Thesis Committee for Sai Kosaraju in Computer Science

Summer 2022 Master's Thesis Committee for Albert Romero in Applied Statistics and Data Science at UTRGV

Fall 2021 Serve as Master's Thesis Committee for Mikian Musser in Computer Science

Fall 2021 Guangyu Meng (M.S. at Washington University in St. Louis, intern in the lab)

*\*published a full paper at SDM'22*

*\*published a student abstract at AAAI'22*

Spring'21 Jason Hough, Lidia Garcia, Luis Tamborrell, Pedro Tinajero (B.S. at UTRGV, senior project)

- 2020-2021 Sonny Chauhan (B.S. at Rensselaer Polytechnic Institute, intern in the lab)  
 \*next place  $\Rightarrow$  Data Analyst Intern in the Simons Foundation.
- 08-10/2020 Yifeng Yu (B.S. at the University of Southern California, intern in the lab)
- 08-10/2020 Shariful Islam (incoming M.S. at UTRGV)  
 \*submitted a student abstract to AAAI'21.
- Fall 2020 Kaiqun Fu (Ph.D. at Virginia Tech, co-advising)  
 \*published a full paper at SDM'22.
- Fall 2020 Mingyuan Wang (Ph.D. at Florida State University, co-advising)
- Fall 2020 Debangsha Sarkar (M.S. at University of British Columbia Okanagan Campus, co-advising)

## Research Projects (as a student)

- 2019-2020 **Understanding Behavior Differences Among Subpopulations Using Inverse Reinforcement Learning**, funded by National Institutes of Health (NIH).  
 With a strong relationship between behavior habits and health status, we utilize a data-drive approach to understand behavior patterns and study the dynamic between situations and actions. The findings may allow technology to help improve people's habits and health status.
- 2018-2019 **Constructing Markov Models of Human Behaviors Based on Smart Home Sensor Data**, funded by National Science Foundation (NSF); collaborated with College of Nursing.  
 While pervasive computing technologies for observing human behavior are becoming mainstream, we construct stochastic models based on smart home sensor data among population subgroups as a purpose of discovering actionable routine strategies that are associated with better health status.
- 2017-2018 **Iterative Design of Visual Analytics for a Clinician-in-the-loop Smart Home**, funded by National Institutes of Health (NIH); collaborated with clinicians, psychologists and nurses.  
 With the increasing health needs of the coming "age wave", we design a clinician-in-the-loop visual interface, that provides clinicians with patient behavior patterns, derived from smart home data. The technology offers the potential to perform remote monitoring for supporting self-management.
- 2016-2018 **Designing an Ecologically-Valid Formal Model of Human Activity Patterns**, funded by National Science Foundation (NSF).  
 Formal modeling and analysis of human behavior is a popular topic in disciplines ranging from psychology to economics. We propose a formal model of indoor routine behavior based on automatically-sensed and recognized activities. These findings may be used to automate diagnoses and design customized behavioral interventions.
- 2015-2018 **Analyzing the relationship between human behavior and indoor air quality in smart homes**, funded by Department of Energy (DOE) and Environmental Protection Agency Science To Achieve Results; collaborated with people from civil and environmental engineering.  
 Because the quality of the air we experience inside and outside buildings may accompany behavior changes, we apply data science and machine learning technologies in smart home environments to understand the types of behavior that measurably impact indoor air quality.

## Patent

- 2014 Glimm, James, Jimmie Goode, Beiyu Lin, Nicholas Pezolano, and Svetlozar Rachev. "Real time evaluation of financial returns based on nearly elliptical models." U.S. Patent Application 14/163,674, filed July 31, 2014.

## Publications (names in underlines are students)

### Submitted

- 9/2023 Yash Devkota, Beiyu Lin. A Transfer-Learning based Stress Detection via Chest and Wrist Sensors (plan to submit ACM SAC'24)
- 9/2023 Kevin Nguyen, Beiyu Lin. Affect Prediction via Natural Computer Mouse Activity (plan to submit ACM SAC'24)



- 9/2023 Grace Wang, Beiyu Lin, et al. CNN for Topographical Scalp Maps for Hearing Impairment Detection (submitted IEEE ICASSP'24)
- 9/2023 Seohyeon Kim, Bryan A. Duran, Beiyu Lin, et al. Semi-supervised Learning for Classifying Plasma Waves that Can Affect Space Weather, (submitted to ACM SAC'24)
- 9/2023 Theo Gueuret, Beiyu Lin, et al. Machine Learning for Auditory Scene Detection with Limited Data (submitted to journal Sensors)
- 8/2023 Chol Hyun Park, Ki Chan, Michelle Buslon, Beiyu Lin. Analysis and Classification of Basketball Draft from College to NBA, *submitted to student abstract*.
- 1/2023 Vincent Bergerault, Beiyu Lin. Analyzing Sensor-Based Walking Behavior Patterns via Long Short-Term Memory (submitted to Symposium on Artificial Intelligence for Learning Health Systems'23)

### Published

- 11/2023 Yan, J., Huang, X., Wang, S., He, Y., Li, X., Hohl, A., Li, X., Aly, M. and Lin, B., 2023. Toward a comprehensive understanding of eye-level urban greenness: a systematic review. *International Journal of Digital Earth*, 16(2), pp.4769-4789.
- 7/2023 Katherine Wuestney, Beiyu Lin, Diane Cook, Roschelle Fritz. Modeling Human Frailty with a Smart Home-Based Approximation of Entropy, *rapid-fire oral presentation, ACM-BCB'23*.
- 6/2023 Tan Nguyen, Beiyu Lin. Machine Learning for Parkinson Detection via Speech Analysis, *KDD'23 SoCal Data Science Day*.
- 1/2023 Seungman Park, Anna Lien-Lun Chien; Beiyu Lin; Keva Li. Improved diagnosis of rosacea by combining deep learning models, *full paper to Journal: Applied Sciences*.
- 12/2022 Taif Anjum, Louis Chirade, Beiyu Lin, Apurva Narayan. Learning Spatiotemporal Features via 3D CNNs to Forecast Time-To-Accident, *short paper, International Conference on Agents and Artificial Intelligence (ICAART)'23 (accepted)*.
- 2022 Louis Barbier, Beiyu Lin. Unsupervised Learning for Extreme Space Weather Detection, *Posters and Demos ACM/IEEE Symposium on Edge Computing (SEC)'22*.
- 2022 Cicelia Siu, Beiyu Lin. Imitation Learning for cortical speech-evoked responses, *Posters and Demos ACM/IEEE SEC'22*.
- 2022 Wenkai Li, Theo Gueuret, Beiyu Lin. SlideCNN: Deep Learning for Auditory Spatial Scenes with Limited Annotated Data, *Posters and Demos ACM/IEEE SEC'22*.
- 2022 Taif Anjum, Beiyu Lin, Apurva Narayan. Leveraging Spatio-temporal Features to Forecast Time-To-Accident, *ACM SIGSPATIAL Student Research Competition'22*.
- 2022 Meng, G., Jiang, Q., Fu, K., B. Lin, C. Lu, and Z. Chen. Early forecasting of the impact of traffic accidents using a single shot observation. *SIAM International Conference on Data Mining (SDM) acceptance rate of 27.8%, 2022*.
- 2022 Meng, G., Jiang, Q., Fu, K., B. Lin, C. Lu, and Z. Chen. Early forecast of traffic accident impact based on a single-snapshot observation. *AAAI Student Poster Session, 2022*.
- 2022 B. Lin, X. Jia, Chauhan, S., H. Xu, and X. Huang. Behavior modeling via cursor movement data. *IEEE Rising Stars Poster Competition (People Choice Award), 2022*.
- 2021 Ek, S., Curci, M., Yang, X., B. Lin, and H. Xu. Sentiment analysis of long-term social data during the covid-19 pandemic. *Int'l Conf on Internet Computing and Internet of Things (ICOMP), 2021*.
- 2021 B. Lin, X. Jia, and Z. Chen. Studying spread patterns of covid-19 based on spatiotemporal data,. *SIAM International Conference on Data Mining (SDM) Tutorial., 2021*.

- 2021 X. Jia, B. Lin, J. Zwart, J. Sadler, A. Appling, S. Oliver, and J. Read. Graph-based reinforcement learning for active learning in real time: An application in modeling river networks. *SIAM International Conference on Data Mining (SDM)*, 2021, acceptance rate of 21.25% (**Best Applied Data Science Paper Award**)., 2021.
- 2020 Beiyu Lin. Smart home residents' behavior analysis. *Academic Showcase, Pullman, Washington State University*, 2020.
- 2020 Beiyu Lin. Human location preferences via imitation learning. *Infrastructure and Construction Webinar - Urban Planning Session*, 2020.
- 2020 B Lin, D. Cook, and Schmitter-Edgecombe M. Using continuous sensor data to formalize a model of in-home activity patterns. *Journal of Ambient Intelligence and Smart Environments (Impact factor: 2.85; Quartile: based on Resurchify, Q2 in the 25 to 50% group)*, pages 1–19. IOS Press, 2020.
- 2020 B. Lin and D. Cook. Analyzing sensor-based individual and population behavior patterns via inverse reinforcement learning. *Sensors (Impact factor: 4.35; Quartile: based on Resurchify, Q1 top 25% of journals)*, volume 20, page 5207,, 2020.
- 2019 Beiyu Lin. Population level behavior analysis and its applications in healthcare. *Ph.D. Forum at SIAM International Conference on Data Mining Doctoral Forum, Alberta, Canada*, 2019.
- 2019 Beiyu Lin. Constructing an ecologically-valid formal markovian model of human activity patterns. *General Poster Session at Grace Hopper Celebration, Orlando, FL*, 2019.
- 2019 Y. Huangfu, N. Lima, P. O'Keeffe, W. Kirk, B. Lamb, S. Pressley, B. Lin, D. J. Cook, V. Walden, and B. Jobson. Diel variation of formaldehyde levels and other vocs in homes driven by temperature dependent infiltration and emission rates. *Building and Environment (Impact factor: 6.92; Quartile: based on Resurchify, Q1 top 25% of journals)*, volume 159, page 106153. Elsevier, 2019.
- 2018 A. Musser, B. Lin, D. Cook, B. Jobson, M. Kirk, N. Lima, P. O'Keeffe, S. Pressley, V. Walden, Y. Huangfu, and B. Lamb. Simulations of indoor air quality based on future climate conditions. 2018.
- 2018 A. Musser, B. Lin, D. Cook, B. Jobson, M. Kirk, N. Lima, P. O'Keeffe, S. Pressley, V. Walden, Y. Huangfu, and B. Lamb. The major role of temperature on indoor concentrations of air toxic vocs in 9 houses based on in-situ high time resolution measurements. *the 15th Conference of the International Society of Indoor Air Quality and Climate*, 2018.
- 2018 A. Musser, B. Lin, D. Cook, B. Jobson, M. Kirk, N. Lima, P. O'Keeffe, S. Pressley, V. Walden, Y. Huangfu, and B. Lamb. Indoor air toxic gases levels in a net-zero energy house under multiple ventilation system settings. 2018.
- 2018 Beiyu Lin. Identifying and modeling the patterns of human activity routines. *Research Exposition at Graduate and Professional Student Association, Pullman, WA*, 2018.
- 2018 W. Kirk, M. Fuchs, Y. Huangfu, N. Lima, P. O'Keeffe, B. Lin, T. Jobson, S. Pressley, V. Walden, D. Cook, et al. Indoor air quality and wildfire smoke impacts in the pacific northwest. *Science and Technology for the Built Environment (Impact factor: 1.82 Quartile: based on Resurchify, Q2 in the 25 to 50% group)*, volume 24, pages 149–159. Taylor & Francis, 2018.
- 2018 A. Ghods, K. Caffrey, B. Lin, K. Fraga, R. Fritz, M. Schmitter-Edgecombe, C. Hundhausen, and D. J. Cook. Iterative design of visual analytics for a clinician-in-the-loop smart home. *IEEE journal of biomedical and health informatics (Impact factor: 7.41; Quartile: based on Resurchify, Q1 top 25% of journals)*, volume 23, pages 1742–1748. IEEE, [Highlight at the journal \(link\)](#), 2018.
- 2017 B. Lin, Y. Huangfu, N. Lima, B. Jobson, M. Kirk, P. O'Keeffe, S. Pressley, V. Walden, B. Lamb, and D. J. Cook. Analyzing the relationship between human behavior and indoor air quality. *Journal of Sensor and Actuator Networks (Impact factor: 4.74; Quartile: based on Resurchify, Q1 top 25% of journals)*, volume 6, page 13, 2017.

- 2013 Z. Sheng, B. Lin, and Zhang S. Testing unit roots of first-order autoregressive process with stable distributions errors. *Chinese Journal of Applied Probability and Statistics*, volume 29, pages 443–448, 2013.

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## Invited Talks

- 4/2024 Guest Lecture, EECS, Syracuse University.
- 5/2023 Science Cafe, College of Science, UNLV.
- 5/2023 SUNY-Binghamton.
- 3/2023 SUNY-Albany.
- 3/2023 Purdue University, West Lafayette.
- 3/2023 University of Louisville.
- 3/2022 University of Oklahoma.
- 3/2023 University of Central Florida.
- 2/2023 Ontario Tech University, Canada.
- 1/2022 University of Houston.
- 1/2023 West Virginia University.
- 12/2022 University of Cincinnati, Ohio.
- 12/2022 Villanova University, Pennsylvania.
- 11/2022 University of Groningen, Netherlands.
- 10/2022 Machine Learning and its applications, Tech Alley, Las Vegas, NV.
- 08/2022 Machine Learning and its applications, Dylan Curious Podcast, Las Vegas, NV.
- 04/2022 Symposium, Nevada Institute of Personalized Medicine, University of Nevada - Las Vegas.
- 03/2022 High Performance Computing Symposium, University of Nevada - Las Vegas.
- 01/2022 Seminar, Nevada Institute of Personalized Medicine, University of Nevada - Las Vegas.
- 05/2021 Computer Science, University of Nevada - Las Vegas.
- 05/2021 Business School, Long Island University.
- 04/2021 School of Computing and Information Systems, Singapore Management University.
- 04/2021 School of Data Science, University of Virginia.
- 04/2021 Computer Science, University of Connecticut.
- 03/2021 Computer Science, Eastern Michigan University.
- 03/2021 Computer Science, Towson University.
- 03/2021 Computer Science, University of the Pacific.
- 02/2021 Computer Science, San José State University.
- 01/2021 Computer Science, Northern Kentucky University.
- 01/2021 Department of Health & Biomedical Sciences, the University of Texas Rio Grande Valley.
- 12/2020 Department of Surgery, School of Medicine, the University of Texas Rio Grande Valley.
- 10/2020 Computer Science Seminar, the University of British Columbia Okanagan Campus.
- 09/2020 Neuroscience Research Seminar, School of Medicine, the University of Texas Rio Grande Valley.
- 09/2020 Human–Computer Interaction Seminar, the University of Texas Rio Grande Valley.
- 09/2020 Open Problem in Computer Science Seminar, the University of Texas Rio Grande Valley.
- 09/2020 Society of Photographic Instrumentation Engineers, the University of Texas Rio Grande Valley.



- 03/2020 Population-level behavior analysis at Merrimack College, Colby College, University of Texas Rio Grande Valley, University of New Haven (virtual), Dominican University (virtual).
- 03/2020 Programming in C, Pomona College (cancelled).
- 03/2020 Support Vector Machine, University of Rutgers (virtual).
- 03/2020 Stack in C, University of Connecticut (virtual).
- 03/2020 Society of Women Engineers, Undergraduate Research Mixer Event, WSU.
- 10/2019 Guest lecture, Machine Learning and its Applications at School of Economic Sciences, WSU.
- 03/2019 Guest lecture, Support Vector Machine for the class Introduction to Machine Learning, WSU.
- 03/2019 Analysis of Sensor Data Using Oracle Advanced Analytics, Analytics and Data Summit, CA.

## Media Coverage/Impact

- 8/2022 Dylan Curious Podcast, Las Vegas: Machine Learning and its Applications
- 11/2020 ValleyMorningStar (newspaper in Harlingen, TX): UTRGV wins computer exploring award
- 11/2020 BrownsvilleHerald (newspaper in Brownsville, TX): UTRGV wins computer exploring award
- 11/2020 The Monitor (newspaper in Starr and Hidalgo counties): UTRGV wins computer exploring award
- 11/2020 UTRGV Newsroom: UTRGV one of 50 institutions to earn Google exploreCSR award
- 07/2019 Journal of Biomedical and Health Informatics: Medical Informatics
- 06/2019 ScienceDaily: Researchers uncover indoor pollution hazards
- 06/2019 WSU Insider: Researchers uncover indoor pollution hazards
- 06/2019 Nexus Newsfeed: Researchers uncover indoor pollution hazards
- 07/2015 WSU Insider: Researchers look into a future life indoors

## Volunteer

- Fall 2018 Mentor, ACM-W (for a women student from a low socioeconomic family) at WSU
- Summer 2018 Instructor, Black Girls CODE, Atlanta, GA
- Summer 2018 Mentor, Honeywell STEM program for High School Teachers
- Summer 2017 Mentor, Google Summer of Code, Anita Borg Institute

## Professional Services

### Panel / Grant Proposal Reviewer

- US Department of Transportation
- National Science Foundation
- New Frontiers in Research Fund – Exploration, Canada
- DataKind: Reviewer for Google AI Impact Challenge

### Organizer

- IEEE SMC 2022 International Conference on Systems, Man, and Cybernetics

### Guest Editor

- Special Issue in Electronics (IF: 2.690), MDPI, 2022.

### Publicity Co-Chairs

- International Conference on Artificial Intelligence in Healthcare (AliH).

### Session Chair

KDD, 2023

ACM/IEEE SEC, 2022

SDM, 2022

### Student Forum Chair

DSAA 2024

### Program Committee

SDM, 2023, 2024

ACM SIGSPATIAL, 2022

European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (PKDD), 2022

ACM International Conference on Web Search and Data Mining (WSDM), 2022

SIAM International Conference on Data Mining (SDM), 2022

International Conference on Intelligent Environments (IE), 2021, 2022

International Workshop on Big Data Reduction, IEEE – Big Data, 2021,2022

Web Mining and Content Analysis track, WWW, 2021

ACM Student Research Competition, SIGCSE 2021.

SmartStudents'19, a workshop of IEEE International Conference on Smart Computing 2019

### Reviewer

ACM Transactions on Intelligent Systems and Technology 2024

Mathematical and Computational Applications, MDPI, 2024

ACM BCB 2023

ACM Transactions on Computing for Healthcare

Pervasive and Mobile Computing

IEEE Transactions on Artificial Intelligence

Sci - MDPI

International Conference on Human-Computer Interaction – INTERACT 2021

The ACM Transactions on Knowledge Discovery from Data

IEEE International Conference on Big Data

International Journal of Environmental Research and Public Health

Web Search and Data Mining (WSDM'21)

MDPI Sustainability

Sensors

Remote Sensing

Applied Sciences Journal from MDPI

International Conference on Human-Computer Interaction – INTERACT 2019

Journal of Scientific Research and Reports (Science Domain International)

IEEE Transactions on Big Data

### Service at UNLV

Fall 22 Search Committee, Postdoctoral Scholar for the Center for Astrophysics, UNLV

Fall 22 Volunteer for Senior Design Information Session

Spring 22 Committee for AI/ML Minor Program at the College of Engineering

Spring 22 Search Committee for a new faculty search at the Department of Computer Science