

CONTACT INFORMATION	5140 S Hyde Park Blvd Chicago, IL 60615	<i>Email:</i> yasithashehanliyanage (at) gmail (dot) com <i>LinkedIn:</i> https://www.linkedin.com/in/yasitha-liyanage/ <i>Website:</i> https://yliyanage.github.io
MAIN INTERESTS	Machine Learning & AI, Cloud Observability, Signal Processing, Causal Inference.	
EDUCATION	University at Albany, State University of New York (SUNY), Albany, NY PhD, Electrical and Computer Engineering January 2022 G.P.A.: 3.98 out of 4. Dissertation Title: Dynamic Instance-Wise Decision-Making for Machine Learning. Advisor: Dr. Daphney-Stavroula Zois. University of Peradeniya, Sri Lanka BSc, Electrical and Electronic Engineering October 2016 G.P.A.: 3.95 out of 4. Standing: 3rd out of 110.	
EXPERIENCE	Senior Data and Applied Scientist March 2024–present Microsoft Corporation, Redmond, WA - Architected and deployed large-scale, real-time anomaly detection systems for cloud infrastructure, reducing time-to-detect outages (< 3 mins) and driving high availability. - Architected and deployed causal inference frameworks across 30+ Azure microservices for automated outage attribution, driving a 90%+ reduction in incident time-to-resolution. Data and Applied Scientist–II January 2022–March 2024 Microsoft Corporation, Redmond, WA - Engineered machine learning models for Azure cloud service performance anomaly detection utilizing decision fusion and quick detection techniques (90%+ precision and recall). - Expanded distributed system observability across global cloud layers & scenarios by translating complex telemetry insights into highly scalable, production-grade monitoring frameworks. Applied Scientist Intern Summer 2020, Summer 2021 Amazon Capital Services, Inc, Seattle, WA - Expanded the Amazon Seller lending platform for new sellers by deploying production-level credit risk models that managed a \$1B+ loan portfolio across 10K+ new sellers. - Resolved the “cold start” problem for new sellers by fusing authorized external credit bureau signals with propensity score methodologies to minimize expected default loss. - Engineered scalable revenue forecasting models leveraging native platform sales data to accurately predict new seller performance and financial viability. Graduate Research Assistant August 2017–December 2021 Department of Electrical & Computer Engineering, University at Albany, State University of New York (SUNY), Albany, NY - Designed algorithms to perform dynamic instance-wise decision-making. - Designed algorithms to optimally detect the time and geographic location of accidents in near-real-time in a road segment equipped with spatially distributed speed sensors. Advisors: Dr. Daphney-Stavroula Zois and Dr. Charalampos Chelmis. Graduate Research Assistant November 2016–July 2017 Department of Electrical and Electronic Engineering, University of Peradeniya, Sri Lanka - Developed a real-time Non-Intrusive Load Monitoring (NILM) system using uncorrelated spectral components of the active power consumption signal based on Karhunen-Loève expansion. - Implemented a nonlinear controller for a standard twin rotor multi-input multi-output system using state feedback linearizing techniques. Advisors: Dr. Janaka Ekanayake, Dr. Roshan Godaliyadda, Dr. Parakrama Ekanayake and Dr. Lilantha Samaranayake.	

TEACHING EXPERIENCE	Teaching Assistant	November 2016–July 2017
	Department of Electrical and Electronic Engineering, University of Peradeniya, Sri Lanka	
	• EE 501: Advanced Control Systems • EE 539: Nonlinear and Multi-variable Systems	
AWARDS	Microsoft Patent Award, Microsoft Corporation	2025
	Azure Core Champ Award, Microsoft Corporation	2023
	Distinguished Doctoral Dissertation Award, University at Albany	2022
	Graduate Student Association Grant Award, University at Albany	2020
	President’s Award for Scientific Research, Sri Lanka	2019
	Full Colors, Colors Awarding Ceremony, University of Peradeniya, Sri Lanka	2016
PATENTS & PUBLICATIONS	Patents	
	1. Y. Liyanage, K. Hsieh, M. Chintalapati, V. Ramesh, S. Zuehlsdorff, “<i>Real-Time Detection of Latency Anomalies Affecting Cloud Production Workloads</i>,” Reference no. 503487–US01 (Filed to USPTO) Jan 2025.	
	Selected Articles & Journals	
	4. Y. Liyanage, D.-S. Zois, C. Chelmiss, “<i>Dynamic Instance-wise Classification in Correlated Feature Spaces</i>,” IEEE Transactions on Artificial Intelligence, vol. 2, no. 6, pp. 537–548, December 2021. [pdf] 3. Y. Liyanage, D.-S. Zois, C. Chelmiss, “<i>Dynamic Instance-wise Joint Feature Selection and Classification</i>,” IEEE Transactions on Artificial Intelligence, vol. 2, no. 2, pp. 169–184, April 2021. [pdf] 2. Y. Liyanage, D.-S. Zois, C. Chelmiss, “<i>Near Real-Time Freeway Accident Detection</i>,” IEEE Transactions on Intelligent Transportation Systems, October 2020. [pdf] 1. C. Dinesh, S. Welikala, Y. Liyanage, M.P.B. Ekanayake, R.I. Godaliyadda, J. Ekanayake, “<i>Non-Intrusive Load Monitoring Under Residential Solar Power Influx</i>,” Elsevier Journal of Applied Energy, vol. 205, pp. 1068–1080, November 2017. [pdf]	
	Selected Conferences & Workshops	
	16. Y. Liyanage, X. Liu, K. Hsieh, M. Chintalapati, “<i>Causal Attribution of Azure Control-Plane Anomalies</i>”. 2026 Machine Learning, AI & Data Science Conference (MLADS 2026), Redmond, WA, June 08–11, 2026. 15. Y. Liyanage, D.-S. Zois, “<i>Interpretability in the Context of Sequential Cost-Sensitive Feature Acquisition</i>”. 48th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2023), Rhode Island, Greece, June 04–10, 2023. [pdf] 14. X. Yan, K. Hsieh, Y. Liyanage, M. Ma, M. Chintalapati, Q. Lin, Y. Dang, D. Zhang, “<i>Aegis: Attribution of Control Plane Change Impact across Layers and Components for Cloud Systems</i>”. 45th International Conference on Software Engineering: Software Engineering in Practice (ICSE-SEIP 2023), Melbourne, Australia, May 14–20, 2023. [pdf] 13. Y. Liyanage, D.-S. Zois, “<i>Optimum Feature Ordering For Dynamic Instance-wise Joint Feature Selection and Classification</i>”. 46th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2021), Toronto, Ontario, Canada, June 06–11, 2021. [pdf] 12. S. Ekanayake, Y. Liyanage, D.-S. Zois, “<i>Dynamic Feature Selection for Classification in Structured Environments</i>”. 55th Asilomar Conference on Signals, Systems, and Computers (ACSSC 2021), Pacific Grove, CA, October 31–November 03, 2021. [pdf] 11. I. Nazar, Y. Liyanage, D.-S. Zois, C. Chelmiss, “<i>Sequential Heterogeneous Feature Selection for Multi-class Classification: Application in Government 2.0</i>”, IEEE International Workshop on Machine Learning for Signal Processing (MLSP), Aalto University, Espoo, Finland, September 21–24, 2020. [pdf]	

10. **Y. Liyanage**, D.-S. Zois, C. Chelmiss, “*On-the-fly Feature Selection and Classification with Application to Civic Engagement Platforms*”. 45th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2020), Barcelona, Spain, May 04–08, 2020. [pdf]
9. I. Nazar, **Y. Liyanage**, D.-S. Zois, C. Chelmiss, “*Automated Optimal Online Civil Issue Classification using Multiple Feature Sets*,” Asilomar Conference on Signals, Systems, and Computers (ACSSC 2019), Pacific Grove, CA, November 03–09, 2019. [pdf]
8. **Y. Liyanage**, D.-S. Zois, C. Chelmiss, M. Yao, “*Robust Freeway Accident Detection: A Two-Stage Approach*,” 44th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2019), Brighton, UK, May 12–17, 2019. [pdf]
7. **Y. Liyanage**, D.-S. Zois, C. Chelmiss, “*Automating The Classification Of Urban Issue Reports: An Optimal Stopping Approach*,” 44th IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2019), Brighton, UK, May 12–17, 2019. [pdf]
6. **Y. Liyanage**, C. Chelmiss, D.-S. Zois, “*A Hierarchical Framework for Timely Freeway Accident Detection and Localization*,” IEEE International Conference on Big Data (BigData 2018), Seattle, WA, December 10–13, 2018. [pdf]
5. **Y. Liyanage**, D.-S. Zois, C. Chelmiss, “*Quickest Freeway Accident Detection Under Unknown Post-Accident Conditions*,” 6th IEEE Global Conference on Signal and Information Processing (GlobalSIP 2018), Anaheim, CA, November 26–29, 2018. [pdf]
4. **Y. Liyanage**, M. Yao, C. Yong, D.-S. Zois, C. Chelmiss, “*What matters the most? Optimal Quick Classification of Urban Issue Reports by Importance*,” 6th IEEE Global Conference on Signal and Information Processing (GlobalSIP 2018), Anaheim, CA, November 26–29, 2018. [pdf]
3. **Y. Liyanage**, D.-S. Zois, C. Chelmiss, “*Optimal Sequential Detection of Freeway Accidents*,” Asilomar Conference on Signals, Systems, and Computers (ACSSC 2018), Pacific Grove, CA, October 28–31, 2018. [pdf]
2. J. Wijekoon, **Y. Liyanage**, S. Welikala, L. Samaranayake, “*Yaw and Pitch Control of a Twin Rotor MIMO System Using a Nonlinear based Controller*,” IEEE International Conference on Industrial and Information Systems (ICIIS 2017), Peradeniya, Sri Lanka, December, 2017. [pdf]
1. **Y. Liyanage**, S. Welikala, C. Dinesh, M. P. B. Ekanayake, R. I. Godaliyadda, J. Ekanayake, “*Real-time non-intrusive appliance load monitoring under supply voltage fluctuations*,” IEEE International Conference on Advances in ICT for Emerging Regions (ICTer 2017), Colombo, Sri Lanka, September, 2017. [pdf]

PhD Thesis

1. **Y. Liyanage**, “*Dynamic Instance-Wise Decision-Making for Machine Learning*,” Albany, NY, January, 2022. [pdf]

TECHNICAL SKILLS

- Python, SQL, Matlab, AWS, Azure
- Linux, macOS, Windows

PROFESSIONAL ACTIVITIES / MEMBERSHIPS

- **TCP–Chair:** International Conference On Industrial And Information Systems (ICIIS–2025)
- **Reviewer:** Springer Nature, Machine Learning
- **Reviewer:** IEEE Transactions on Industrial Informatics
- **Reviewer:** Machine Learning, AI & Data Science Conference (MLADS–2023)
- **Program Committee:** AAAI Conference on Artificial Intelligence 2021 (AAAI–21)
- **Member:** IEEE, IEEE Signal Processing Society

LANGUAGES

- English
- Sinhala