

Kristina Pestaria Sinaga, Ph.D.

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Education

- 2016 – 2020 **Ph.D., Chung Yuan Christian University, Taiwan** in Applied Mathematics.
Thesis title: *Multi-View Fuzzy Clustering Algorithms for Multi-View Data*
Advisor: Prof. Miin-Shen Yang
- 2013 – 2015 **M.Sc., University of Sumatera Utara, Indonesia** in Mathematics.
Thesis title: *Model Optimasi Stokastik Penentuan Lokasi dan Jumlah Ambulan dengan Kolerasi (in Bahasa Indonesia)*
Advisor: Prof. Herman Mawengkang and Dr. Esther Nababan
- 2008 – 2013 **B.Sc., University of Sumatera Utara, Indonesia** in Mathematics.
Thesis title: *Analisis Pengaruh Produk Domestik Regional Bruto, Pendidikan dan Pengangguran terhadap Kemiskinan di Kabupaten/Kota Propinsi Sumatera Utara (in Bahasa Indonesia)*
Advisor: Prof. Tulus and Dr. Open Darnius

Areas of interest

My main research interests lie at the intersection of clustering and pattern recognition. In more detail, I focus on new approaches to cluster development and analyzing of pattern recognition systems (for single and multiple perspectives data). Recently, I'm learning on the state-of-the-art DL-based approaches for cluster analysis.

Experience

- November 2020 – April 2022 **Lecturer**, Bina Nusantara University, Indonesia.
- Septemer 2016 – August 2020 **PhD Research Student**, Chung Yuan Christian University, Taiwan.

Research Publications

Journal Articles

- 1 Hussain, I., Sinaga, K. P., & Yang, M.-S. (**complete but have not been submitted**). Unsupervised multi-view fuzzy c-means.
- 2 Sinaga, K. P., Hussain, I., & Yang, M.-S. (2021). Entropy k-means clustering with feature reduction under unknown number of clusters. *IEEE Access*, 9, 67736–67751.
- 3 Yang, M.-S., & Sinaga, K. P. (2021). Collaborative feature-weighted multi-view fuzzy c-means clustering. *Pattern Recognition*, 108064.
- 4 Sinaga, K. P., & Yang, M.-S. (2020). Unsupervised k-means clustering algorithm. *IEEE Access*.
- 5 Yang, M.-S., & Sinaga, K. P. (2019). A feature-reduction multi-view k-means clustering algorithm. *IEEE Access*, 7, 114472–114486.

- 6 Sinaga, K. P., Hutahaean, M., & Gea, P. (2016). Spatial variation in infant mortality with geographically weighted poisson regression (gwpr) approach. *vol*, 5(3), 96–100.
- 7 Sinaga, K. P. (2015a). Model optimasi stokastik penentuan lokasi dan jumlah ambulan dengan kolerasi.
- 8 Sinaga, K. P. (2015b). Pemodelan data kemiskinan di provinsi sumatera utara dengan metode geographically weighted regression.
- 9 Sinaga, K. P. (2015c). Poverty data modeling in north sumatera province using geographically weighted regression (gwr) method. *International Journal of Science and Research (IJSR)*, 4(2), 1738–1742.
- 10 Sinaga, K. P., & Tulus, O. D. (2013). Analisis pengaruh produk domestik regional bruto, pendidikan dan pengangguran terhadap kemiskinan di kab/kota propinsi sumatera utara tahun 2010–2011. *Saintia Matematika*, 1(3), 261–271.
- 11 Sinaga, K. P. (Ongoing[a]). A comprehensive validity index for multi-view machine learning.
- 12 Sinaga, K. P. (Ongoing[b]). Multi-view learning disagreement-based entropy-gaussian-kernel.
- 13 Sinaga, K. P. (Ongoing[c]). Regularized multi-label view reduction without supervision.

Conference Proceedings

- 1 Alexandra, J., & Sinaga, K. P. (2021). Machine learning approaches for marketing campaign in portuguese banks, In *2021 3rd international conference on cybernetics and intelligent system (icoris)*. IEEE.
- 2 Wibowo, H., & Sinaga, K. P. (2021). Telecommunication analytics based on customer segmentation using unsupervised algorithms, In *2021 3rd international conference on cybernetics and intelligent system (icoris)*. IEEE.

Books and Chapters

- 1 Yuniati, D., & Sinaga, K. P. (2021). *Analytics-based on classification and clustering methods for local community empowerment in indonesia*. In: Soft Computing in Data Science. Vol. 1489. CCIS. Springer, October 2021, pp. 133-145. https://doi.org/10.1007/978-981-16-7334-4_10
- 2 Sinaga, K. P., Hsieh, J.-N., Benjamin, J. B., & Yang, M.-S. (2018). *Modified relational mountain clustering method*. In: Artificial Intelligence & Soft Computing. Vol. 10841. LNCS. Springer, May 2018, pp. 690-701. https://doi.org/10.1007/978-3-319-91253-0_64

Skills

Languages	Strong reading, writing and speaking competencies for English and Bahasa Indonesia; Elementary level for Chinese/Mandarin.
Coding	MatLAB, R, L ^A T _E X, Python, MySQL, WEKA.
Misc.	Academic research, L ^A T _E X typesetting.

Courses Taught

November 2020 – April 2022	Business Intelligence and Analytics , Graduate Program
September 2021 – February 2022	Discrete Mathematics , Undergraduate Program
February 2022 – April 2022	Calculus I , Undergraduate Program

Certifications and Licenses

February 2021	■ AWS-PDH IEEE Continuing Education
January 2021	■ UNSW-Learning to Teach Online
November 2022	■ Coursera-DeepLearning.AI TensorFlow Developer Professional
October 2022	■ Coursera-Machine Learning Specialization

Miscellaneous Experience

Awards and Achievements

2016	■ CYCU International Student Scholarship , Chung Yuan Christian University, Taiwan.
2017	■ The recipient of the Japan Student Service Organization (JASSO) , Joint Seminar and Research Camp program on Mathematical Science (JSRC2017) between PKNu, MSU-IIT, NSU, KMUTT, NEU, CYCU, NSYSU, NCKU, NCUE, NTNU, NKNU, NTHU and Niigata University (NU) in Niigata University, Japan.
	■ CYCU International Student Scholarship , Chung Yuan Christian University, Taiwan.
2018	■ CYCU International Student Scholarship , Chung Yuan Christian University, Taiwan.
	■ The Japan Science and Technology Agency (JST) recipient , Activities of Sakura Science Exchange Program in Niigata University, Japan.
	■ Support from Ministry of Science and Technology (MOST) Taiwan , For International Conference on Artificial Intelligence and Soft Computing (ICAISC 2018), Zakopane, Poland, June 3-7, 2018.
2019	■ CYCU International Student Scholarship , Chung Yuan Christian University, Taiwan.
	■ Outstanding Doctoral Student Research Awards , Chung Yuan Christian University, Taiwan.
2020	■ Honorary member of The Phi Tau Phi Scholastic Honor Society of The Republic of China.

Professional Service

December 2020 – December 2021	■ Member , IEEE
2020, 2021, 2022	■ Invited Reviewer , IEEE Access
January 2022	■ Invited Reviewer , IEEE Transactions on Knowledge and Data Engineering
January, July 2022	■ Invited Reviewer , Information Fusion, Elsevier
February 2022	■ Invited Reviewer , Applied Soft Computing, Elsevier

Professional Service (continued)

March 2022



Invited Reviewer , WCCI2022, IEEE WORLD CONGRESS ON COMPUTATIONAL INTELLIGENCE

December 2022 - March 2023



Invited Reviewer , IJCNN2023

References

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