Kristina Pestaria Sinaga, Ph.D.

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Kristina P. Sinaga

Education

2016 – 2020   **Ph.D., Chung Yuan Christian University, Taiwan** in Applied Mathematics (GPA: 3.82).
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 (GPA: 3.78).
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 (GPA: 3.30).
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.
September 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, LaTeX, Pyhton, MySQL, WEKA.
Misc.	🔖 Academic research, LaTeX 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 Mathmatical 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
November 2022 – January 2023	▌ **Invited Reviewer** , Information Fusion, Elsevier

Professional Service (continued)

February 2022   ■ **Invited Reviewer** , Applied Soft Computing, Elsevier

March 2022   ■ **Invited Reviewer** , WCCI2022, IEEE WORLD CONGRESS ON COMPUTATIONAL INTELLIGENCE

December 2022 - March 2023   ■ **Invited Reviewer** , IJCNN2023

References

Miin-Shen Yang, Ph.D.
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    `msyang@math.cycu.edu.tw`

Herman Mawengkang, Ph.D
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Medan, Indonesia
    `mawengkang@usu.ac.id`

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