

Kristina Pestaria Sinaga, Ph.D.

✉ kristinasinaga57@yahoo.co.id

🌐 <https://www.kpnaga08.github.io>

ORCID: <https://orcid.org/0000-0003-0169-5265>



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, Bahasa Indonesia.
Coding	MatLAB, R, \LaTeX , Python, 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

Awards and Achievements

- ## 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 |
| March 2022 |  Invited Reviewer , WCCI2022, IEEE WORLD CONGRESS ON COMPUTATIONAL INTELLIGENCE |

References

Miin-Shen Yang, Ph.D.

Distinguished Professor
Chung Yuan Christian University
Department of Applied Mathematics
Chung-Li 32023, Taiwan, ROC
msyang@math.cycu.edu.tw

Herman Mawengkang, Ph.D

Professor
University of Sumatera Utara
Faculty of Mathematics and Natural Science
Medan, Indonesia
mawengkang@usu.ac.id

Dr. Gerhard-Wilhelm Weber

Professor
Poznan University of Technology
Faculty of Engineering Management
ul. Jacka Rychlewskiego 2
60-965 Poznan, Poland
gerhard.weber@put.poznan.pl

Tamaki Tanaka, Ph.D.

Professor (Full)
Niigata University
Graduate School of Science and Technology
Niigata, Japan
tamaki@math.sc.niigata-u.ac.jp