



### Personal Info

Name : Dr. Dra. Ani Budi Astuti, M.Si  
 Functional position : Associate Professor  
 Structural position : Head of Laboratory of Biostatistics  
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 Course taught : 1. Statistical Quality Control  
 2. Categorical Data Analysis  
 3. Exploratory Data Analysis  
 4. Introduction to Probability Theory

### Education Background

Program	S1	S2	S3
University	Universitas Brawijaya	Institut Pertanian Bogor	Institut Teknologi Sepuluh Nopember
Department	Mathematics / Statistics	Applied Statistics	Statistics
Year of graduation	1991	1997	2017
Title of final project/thesis/dissertation	The Robust Test for the Correlation Coefficient of Karl Pearson and Spearman	Linear Local Smoothing of the EM Algorithm to Estimate the Cases of HIV Infection	Bayesian Mixture Averaging Model to Identify Differences in Gene Expression in Microarray Experiments
Supervisor/Promotor	Dr. Ir. Loekito Adi Soehono, M.Agr.	Dr. Ir. Khairil Anwar Notodiputro	Prof. Drs. Nur Iriawan, M.IKom, Ph.D.

### Research Project

1. Bayesian Modeling of Diabetes Mellitus Cases in Malang City: Overview of Various Distribution Approaches (2019)



2. Continuous Ranked Probability Score (CRPS) Algorithm in Bayesian Mixture Modeling for Microarray Data in Indonesia (2018)
3. Modeling of Blood Sugar Levels of Diabetes Mellitus Patients through the Development of Averaging Model Bayesian Mixture Algorithm (2nd Year) (2016)
4. Modeling of Blood Sugar Levels of Diabetes Mellitus Patients through the Development of Averaging Model Bayesian Mixture Algorithm (1st Year) (2015)
5. Development of Kalman Filter Kriging Method for Interpolation of Temporary Spatio Rainfall Data (2011)
6. Estimation of Monthly Mean Rainfall in the Malang Region with Universal Kriging Spatial Interpolation (2009)
7. Robust Kriging Interpolation Method to Predict Mean Rainfall in the Malang Region (2009)
8. Power of Test of Statistics Run Test in Detecting Residual Non-autocorrelation in Linear Regression Model (2008)
9. Estimation of the number of HIV-infected individuals using the EMS algorithm (2005)

#### Community Development Program

1. Utilization of Statistical Methods for Ptk for MGMP Mathematics Teachers in Banyuwangi Regency to Increase Research Ability (2019)
2. Empowerment of Qualified Village Apparatuses and Superior Coffee Farmers through Statistics, Computing and Coffee Training towards the Advanced, Independent and Self-Sufficient Villages (2018)
3. Refreshing Data Analysis Using Microsoft Excel for Teachers of Miftahul Huda Foundation (Islamic Elementary School & Junior High School) in Wajak Malang Regency (2018)
4. IBM of Junior High School and Islamic Junior High School Teachers in Ponorogo District with Mathematics Software Training to Improve the Quality of Learning Methods (2016)
5. Development of Mathematical Olympiad Material (Algebra and Geometry) for Junior High School and Islamic Junior High School Teachers in Ponorogo Regency (2014)
6. Improvement of Data Handling and Descriptive Analysis Capabilities with Microsoft Excel for Teachers in Wajak District, Malang Regency (2011)
7. Population Information System and Descriptive Statistics Analysis in Batu District, Batu City, East Java (2010)



8. Classroom Action Research for Teachers in the Batu's National Education Department with Descriptive Statistics Analysis (2009)
9. Agriculture, Animal Husbandry, and Plantation Information System and Descriptive Statistics of Srengat District, Blitar Regency (2008)
10. Management Information Systems and Descriptive Analysis of Population and Agriculture in Overlapping (2007)

#### Journal Publication

1. The Effectiveness of Demonstration and Experimentation Learning Methods for Empowering Pine Forest Coffee Farmers Bendosari Village Pujon-Malang Indonesia. *Erudio Journal of Educational Innovation* Vol. 6 No. 2 (2019).
2. Biplot Analysis on Mapping of Coastal Object of South Traffic Line of Malang with Variable of Service Marketing Mix. *IOP Conf. Series: Earth and Environmental Science* 239 (2019).
3. Simulation Study Scenario on Gene Expression Differences of Chickpea Data in Indonesia for Bayesian Modeling Approach. *IOP Conf. Series: Journal of Physics* Volume 1218 No. 012056 (2019).
4. Continuous Ranked Probability Score Validation Methods in Mixture Bayesian Model for Microarray Data in Indonesia. *IOP Conf. Series: Materials Science and Engineering* Vol.546 No.052012 (2019).
5. Bayesian Mixture Model Averaging (BMMA) for Identifying the Differences Genes Expression of Chickpea (*Cicer Arietinum*) Plant Tissue. *Communications in Statistics* Vol. 46 No. 21 (2017).
6. Bayesian Mixture Modeling for Blood Sugar Levels of Diabetes Mellitus Patients (Case Study in RSUD Saiful Anwar Malang Indonesia). *IOP Conf. Series: Journal of Physics* Vol. 893 No. 012036 (2017).
7. Development of Reversible Jump Markov Chain Monte Carlo Algorithm in the Bayesian Mixture Modeling for Microarray Data in Indonesia. *AIP Conference Proceedings* Vol. 1913 No. 020033 (2017).
8. Blood Sugar Levels of Diabetes Mellitus Patients Modeling with Bayesian Mixture Model Averaging. *Global Journal of Pure and Applied Mathematics* Vol. 12 No. 4 (2016).



9. Occam's Window Selection in Bayesian Model Averaging Modeling for Gene Expression Data from Chickpea Plant. *International Journal of Applied Mathematics and Statistics (IJAMAS)* Vol. 53 No. 4 (2015).
10. An Algorithm for Determining the Number of Mixture Components on the Bayesian Mixture Model Averaging for Microarray Data. *Journal of Mathematics and Statistics (JMS)* ISSN 1549-3644 (Print), ISSN 1558-6359 (Online) (2015).
11. Kolmogorov-Smirnov and Continuous Ranked Probability Score Validation on the Bayesian Model Averaging for Microarray Data. *Applied Mathematical Sciences (AMS)* Vol. 146 No.8 (2014).
12. Highest Posterior Density for Identifying Differences in Gene Expression Microarray Experiments. *Proceeding of The 3<sup>rd</sup> Annual Basic Science International Conference (BaSic III)* (2013).
13. Theoretical Studies of Bayesian Mixture Model Averaging Methods for Microarray Data. *Proceeding of 2<sup>nd</sup> Regional Conference on Applied and Engineering Mathematics (RCAEM-II)* (2012).
14. Development of the Kalman Filter Kriging Method for Interpolation of Temporary Spatio Rainfall Data. *Natural FMIPA UB* (2011).
15. Estimation of Monthly Mean of Rainfall in Malang Region with Universal Kriging Spatial Interpolation. *Natural FMIPA UB* (2009).
16. Power of Test of Statistics Run Test in Detecting Residual Non-autocorrelation in Linear Regression Model. *Natural FMIPA UB* (2008). *Engineering* Vol. 19 No. 2 (2007).
17. Estimation of the Number of HIV Infected Individuals Using EMS Algorithm
18. EMSES Algorithm Simulation Study to Estimate the Number of HIV Infected Individuals. *Natural FMIPA UB* (2006).

#### Scientific Paper Presentation in Conference / Scientific Seminar

1. Konferensi Nasional Penelitian Matematika dan Pembelajarannya V (KNPMP-V). Innovative Learning on the Statistics Method and Mathematics Material for Village Officers in Bendorari-Pujon Malang Regency, Indonesia. Universitas Muhammadiyah Surakarta (LoA), April 1, 2020.
2. Seminar Nasional Statistika (SNS) VIII Universitas Padjajaran Bandung. Reversible Jump Markov Chain Monte Carl as a Model of Bayesian Mixture Modeling (Case Study of Diabetes Mellitus Patients in Blimbing District, Malang City). Universitas Padjajaran Bandung, November 2, 2019.



3. International Society for Business and Industrial Statistics (ISBIS) 2019 Satellite Conference, An Association of the International Statistical Institute. Series of Activities for Increasing the Mount Bromo Tourism Business in Indonesia through Modeling Nonlinear Principal Component Analysis. Kuala Lumpur Malaysia, August 15-16, 2019.
4. The 9<sup>nd</sup> Basic Science International Conference (BaSIC IX-2019). Continuous Ranked Probability Score Validation Methods in Mixture Bayesian Model for Microarray Data in Indonesia (Invited Speaker). UB-Malang, March 20-21, 2019.
5. International Conference on Mathematics: Pure, Applied and Computation 2018 (Icompac). Simulation Study Scenario on Gene Expression Differences of Chickpea Data in Indonesia for Bayesian Modeling Approach. Surabaya-Indonesia, October 20, 2018.
6. The 12th International Interdisciplinary Studies Seminar – Environmental Conservation and Education for Sustainable Development (IISS 2018). Simulation Study for Continuous Ranked Probability Score Validation Methods in Mixture Model. Malang, November 14-15, 2018.
7. Konferensi Nasional Matematika XIX 2018. Bayes Factor and RJMCMC on Bayesian Mixture Modeling for Data on the Differences of Chickpea Plant Gene Expression in Indonesia. UB-Malang, July 24-26, 2018.
8. Seminar Nasional Diseminasi Pengabdian Masyarakat 2018. Empowerment of Quality Bendosari Village Apparatuses through Statistics and Computing Training towards the Advanced, Independent and Self-Sufficiency Villages. UB-Malang, December 17, 2018.
9. Seminar Nasional Diseminasi Pengabdian Masyarakat 2018. Empowerment of Superior Coffee Farmers in Bendosari Village through Counseling of Coffee Cultivation and Post Harvest Management towards the Advanced, Independent and Self-Sufficiency Village. UB-Malang, December 17, 2018.
10. Seminar Nasional & Workshop Matematika dan Pendidikan Matematika 2018. Grouping of Chickpea Plant Gene ID in Indonesia through Bayesian and Non-Bayesian Modeling. West Sumatra, April 21, 2018.
11. The 8<sup>nd</sup> Basic Science International Conference (BaSIC VIII-2018). Grouping of Gene IDs on Chickpea Plants in Indonesia with Highest Probability Density through the Bayesian Mixture Normal Model Approach. UB-Malang, March 6-7, 2017.
12. The International Conference & Workshop of Mathematics Analysis and Application, ICWOMAA 2017. Development of Reversible Jump Markov Chain Monte Carlo



- Algorithm in the Bayesian Mixture Modeling for Microarray Data in Indonesia. UB-Malang, 2017.
13. Symposium International of Biomathematics, Symomath 2017. Simulation Study Scenario on Chickpea Data in Indonesia for Bayesian Mixture Modeling. ITB-Bandung. August 27-29, 2017.
  14. The Asian Mathematical Conference, AMC 2016. Bayesian Mixture Modeling for Blood Sugar Levels of Diabetes Mellitus Patients (Case Study in RSUD Saiful Anwar Malang Indonesia). Bali, July 28-29, 2016.
  15. International Symposium of Biomathematics (Symomath) 2015. Bayesian Model Averaging Modeling for Blood Sugar Levels of Diabetes Mellitus Patients in RSUD Saiful Anwar Malang. Bandung, November 4-6, 2015.
  16. The First International Conference on Statistical Methods in Engineering, Science, Economy, and Education, SESEE-2015. Blood Sugar Levels of Diabetes Mellitus Patients Modeling with Bayesian Mixture Model Averaging. Yogyakarta, September 19-20, 2015.
  17. Seminar Nasional: Semirata Bidang MIPA-BKS PTN BARAT. Bayesian Averaging Model with the Occam's Window Model Component Selection Method in Diabetes Mellitus Data. Kalimantan Barat, May 6-9, 2015.
  18. International Symposium on Biomathematics (Symomath). Kolmogorov-Smirnov and Continuous Ranked Probability Score Validation on the Bayesian Model Averaging for Microarray Data. UB-Malang, 2014.
  19. International Conference on Statistics and Mathematics (ICSM). Occam's Window Selection in Bayesian Model Averaging Modeling for Gene Expression Data from Chickpea Plant. Surabaya, November 27-28, 2014.
  20. The 4th Basic Science International Conference (BaSIC IV). Model Components Selection in Bayesian Model Averaging Using Occam's Window for Microarray Data. UB-Malang, February 12-13, 2014.
  21. The 3rd Annual Basic Science International Conference (BaSic III). Highest Posterior Density for Identifying Differences in Gene Expression Microarray Experiments. UB-Malang, April 16-17, 2013.
  22. 2nd Regional Conference on Applied and Engineering Mathematics (RCAEM-II). Theoretical Studies of Bayesian Mixture Model Averaging Methods for Microarray Data. Penang-Malaysia, May 30-31, 2012.



### Textbook Publication

1. Analisis Data Kategorik Menggunakan R, Teori dan Aplikasinya di Berbagai Bidang (2020)

### Awards

1. Satya Lencana Karya Sapta 10 Tahun from President of Republic of Indonesia
2. Satya Lencana Karya Sapta 20 Tahun from President of Republic of Indonesia