

CURRICULUM VITAE

Assoc. Prof. Dr. Nazrul Effendy



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Work Experiences:

- Associate Professor, Engineering Physics Department, Faculty of Engineering, Gadjah Mada University, March 1, 2011 – present
- Associate Professor, Graduate Architecture Program, Faculty of Engineering, Gadjah Mada University, 2014 – present
- Manager of student affairs, research and community service, Faculty of Engineering, Gadjah Mada University (July 2014 – present)
- Visiting Scholar, Machine Learning and Intelligent Optimization (LION) Laboratory, Department of Information Engineering and Computer Science, Trento University, Italy (Nov 3 – Dec 1, 2013)
- Visiting Scholar, Instrumentation, Control and Embedded System (ICES) research group, School of Engineering and Digital Arts, Kent University, United Kingdom (Oct 22 – Nov 20, 2011)
- Postdoctoral research fellow, Department of Control and Computer Engineering, Politecnico di Torino, Italy, July 3, 2010-May 3, 2011
- Visiting Researcher, Tokyo Institute of Technology, August 11- September 8, 2009
- Chairman of Study Program, Engineering Physics Study Program, Department of Engineering Physics, Faculty of Engineering, Gadjah Mada University, May 2007 – July 2010.
- Manager, procurement team, Department of Engineering Physics, Faculty of Engineering, Gadjah Mada University, 2008-2010, 2012-2014
- Manager, Information and Communication Technology Team, Department of Engineering Physics, Faculty of Engineering, Gadjah Mada University, 2008-2010
- Member of the task force in the project of “Communication device for under water vehicle”, a collaboration project between Department of Defense - Republic of Indonesia, PT PAL, PT Pindad, PT LEN, Gadjah Mada University, Bandung Institute of Technology, University of Indonesia, Sepuluh November Institute of Technology, and STTAL, 2008
- Consultant (programmer and team director), instrumentation and software of the environmental monitoring system, the center of nuclear fuel and accelerator technology, Indonesian Atomic Energy Agency (BATAN), Republic of Indonesia, 2008
- Informal Tutor of ‘Digital Signal Processing’ for the International Master Student at

Department of Electrical Engineering, International School of Engineering, Chulalongkorn University, 2004

- Instructor, “Mark V Speedronics Course: MODBUS Configuration, External Communication Links”, PT Indonesia Power-Center for Energy Studies, Gadjah Mada University, April 2003
- Programmer and Analyst, Modeling and Implementation of Evaporator using Borland C++ Builder 4, 2002
- Visiting Lecturer, Language Theory and Automata, Department of Informatics Engineering, Institute of Computer and Informatics Management “Proactive”, Yogyakarta, 2002
- Visiting Lecturer, Multimedia, Department of Informatics Engineering, Institute of Computer and Informatics Management “Proactive”, Yogyakarta, 2002
- Visiting Lecturer, Artificial Neural Networks, Department of Informatics Engineering, Technology University of Yogyakarta, 2002
- Vice Director, Academy of Management, Informatics and Computer “Aster”, Yogyakarta, 1998
- Instructor, Simulation and modeling of Environmental problems using Simulink, Indonesian Atomic Energy Agency, Yogyakarta, 1998

Educational Background:

- 2009: PhD degree from the sandwich program between Chulalongkorn University (Digital Signal Processing Research Laboratory, Division of Communication, Electrical Engineering Department) and Tokyo Institute of Technology (Furui Laboratory, Computer Science Department)
 - Research Field: Speech Recognition
 - Advisor: Ass. Prof. Dr. Somchai Jitapunkul (Chulalongkorn Univ.)
 - Co-advisor: Prof. Dr. Sadaoki Furui (Tokyo Institute of Technology)
 - Courses:
 - Statistical Digital Signal Processing
 - Speech Processing
 - Pattern Recognition and Information Retrieval
 - Research Frontier in Speech Recognition
 - Ph.D. Thesis: A study of prosodic features for Indonesian speech recognition
 - September 2005-August 2006: Research student at Furui Laboratory, Computer Science and Engineering Department, Tokyo Institute of Technology under the guidance of Prof. Dr. Sadaoki Furui → conducted research on the automatic utterance type recognizer of Indonesian intonation.
- 1998-2001, Master of Engineering, Electrical Engineering Study Program, Program of Graduate Studies, Gadjah Mada University, Indonesia
 - Thesis: Design of Monitoring System of Abnormality of Electrocardiograph Signals Based on Their Frequency Spectrum Recognition using Artificial Neural Networks (Advisors: Prof. Dr. Ir. Thomas Sri Widodo, DEA and Dr. Ir. Widi Setiawan.)

- 1992-1998, Sarjana Teknik (engineer), Instrumentation Engineering, Department of Nuclear Engineering, Gadjah Mada University, Indonesia
 - Thesis: Implementation of Artificial Neural Networks to recognize the frequency spectrum
 - Advisors: Dr. Ir. Widi Setiawan and Ir. Balza Achmad, MSc.E.

Other Course/ training:

- Parameter Estimation in Chemical Plant using Genetic Algorithm, Associate Prof Dr. Muhamed Azlan Hussain, University of Malaya, Email: mohd_azlan@um.edu.my, held in Chulalongkorn University, September 8, 2004
- Advanced Process Dynamics and Control, Lecture and Computer Lab Using MATLAB and Simulink by Professor Sirish L. Shah (Author of Control Loop Performance Assessment: Theory and Application, <http://www.ualberta.ca/~slshah>, University of Alberta, Canada, Held in Chulalongkorn University, January 16-26, 2004.

Scholarships/Grant/Awards

- Staff Exchange Program, machine Learning and Intelligent Optimization (LION) Laboratory, Trento University, Italy, Erasmus Mundus AREAS Scholarship, Nov 3 – Dec 1, 2013
- Staff Exchange Program, Instrumentation, Control and Embedded Systems (ICES) research group, School of Engineering and Digital Arts, Kent University, Erasmus Mundus Lotus Scholarship, Oct 22 – Nov 20, 2011
- Post Doc, Department of Control and Computer Engineering, Politecnico di Torino, Italy, Erasmus Mundus Scholarship, July 3, 2010-May 3, 2011 (10 months)
- Short Term Research Program in Japan, the grant consists of round trip airfare, local transportation in Japan, accommodation in Japan, Shinoda Laboratory, Tokyo Institute of Technology, Japan, supported by AUN/SEED Net, August 11 – Sept 8 2009.
- Malaysian Technical Cooperation Program (MTCP) Fellowship, Multimedia University, tuition fee, air travel, and living allowance, May 12 – May 27, 2007
- AUN/SEED-Net (JICA) Scholarships, Doctoral Sandwich Program, Chulalongkorn University-Tokyo Institute Of Technology, tuition fee, air travel, book allowance, and living allowance (since 27 October 2003 for 3 years)
- JICA, Research student, Department of Computer Science, Tokyo Institute of Technology, Tokyo, Japan, September 2005 – August 2006.
- URGE Scholarship, tuition fee and living allowance, in pursuing master degree in Gadjah Mada University, 1998-2001
- Danamon Bank Scholarship, Living allowance, in pursuing bachelor degree in Gadjah Mada University, 1997-1998
- Astra Scholarship, living allowance, in pursuing bachelor degree in Gadjah Mada University, 1996-1997
- PPA Scholarship, living allowance, in pursuing bachelor degree in Gadjah Mada University, 1995-1996
- Supersemar Scholarship, living allowance, in pursuing bachelor degree in Gadjah

Research Experiences:

- A design of a smart patient bed system in a hospital inpatient room with a wireless health monitoring sub system to help a doctor and paramedics to conduct required therapy to improve the quality of the patient, 2013
- Analysis of energy utility and a design of a wireless air conditioner controller system in a hospital inpatient room to achieve a balance between energy efficiency and the comfort and the healing of the patient, 2013
- A design of a diagnosis aid device and a wireless monitoring system of a kidney patient based on artificial neural networks, 2012
- A design of a Sun Tracking System using tube sensors and fuzzy logics to increase the efficiency of the generated electrical energy, 2012
- A design of social network that is integrated with a virtual bank application as a database of disease patients based on SMS Gateway, 2012
- *Measurements of the flow rate of particle in a pipe*, Staff Exchange Program, Instrumentation, Control and Embedded Systems (ICES) research group, School of Engineering and Digital Arts, Kent University, Erasmus Mundus Lotus Scholarship, Oct 22 – Nov 20, 2011
- *Optimal identification of multidimensional polynomials describing systematic errors in CNC machines*, Post Doc, Department of Control and Computer Engineering, Politecnico di Torino, Italy, Erasmus Mundus Scholarship, July 3, 2010-May 3, 2011 (10 months)
- *Automatic Recognition of Indonesian Declarative Questions and Statements Using Polynomial Coefficients of the Pitch Contours*, Short Term Research Program in Japan, the grant consists of round trip airfare, local transportation in Japan, accommodation in Japan, Shinoda Laboratory, Tokyo Institute of Technology, Japan, supported by AUN/SEED Net, August 11 – Sept 8 2009.
- Recognition of Indonesian prosody using artificial intelligence, Chulalongkorn University and Tokyo Institute of Technology, 2004-2007, AUN-Seed Net Scholarship for sandwich PhD program
- The application of fuzzy logic controller on the photovoltaic panel of the sun tracking system, penelitian mandiri, 2007-2008
- Identification System of Speech Intonations for the monitoring and controlling of electric equipments using neural networks, penelitian mandiri, 2007-2008
- Design of Monitoring System of Abnormality of Electrocardiograph Signals Based on Their Frequency Spectrum Recognition using Artificial Neural Networks, Faculty of Engineering, Gadjah Mada University, 1998-2000.
- Implementation of Artificial Neural Networks to recognize the frequency spectrum Faculty of Engineering, Gadjah Mada University, 1996-1998

Publications:

Books:

- **Nazrul Effendy** and Vani Sugiyono, Engineering Mathematics I, in Indonesian, Caps Publishing, Yogyakarta, 2013
- Syifaun Nafisah and **Nazrul Effendy**, Computer Graphics using Borland C++ Builder Professional (Grafika Komputer dengan Borland C++ Builder Professional), in Indonesian, Graha Ilmu, Yogyakarta, 2010

International Journal:

- **Nazrul Effendy**, Koichi Shinoda, Sadaoki Furui, Somchai Jitapunkul, Automatic Recognition of Indonesian Declarative Questions and Statements Using Polynomial Coefficients of the Pitch Contours, Acoustical Science and Technology, July 2009

International Conference:

- Syifaun Nafisah, Oyas Wahyunggoro, Lukito Edi Nugroho, **Nazrul Effendy**, 2013, Automatic Recognition System for Speech Discrimination Cerebral Palsy using Mel-Cepstral Stochastic Model, Proceedings of regional conference on computer & information engineering, Bangkok, 22-23 Augustus 2013
- Gustavo Belforte, Erik L. J. Bohez, **Nazrul Effendy**, 2011, Optimal identification of multidimensional polynomials describing systematic errors in CNC machines, proceedings of the 21st International Conference on Production Research, July 31 – August 4, 2011, Stuttgart, Germany
- **Nazrul Effendy**, Faridah, I Nyoman Kusuma Wardana, Esti Puspitaningrum, A novel Indonesian intonation recognition system using binary matrix conversion of the pitch contour, proceedings of International Conference on Telecommunications (ICTel) 2008, Bandung, August 19-21, 2008, ISSN: 1858-2982 (best paper)
- **Nazrul Effendy** and Jitapunkul, S. Improvement of Intonation recognition for Indonesian speech based on Fujisaki model, proceeding of Field-wise seminar, Chulalongkorn University, 2006
- **Nazrul Effendy**, Maneenoi, E., Charnvivit, P., Jitapunkul, S., Intonation Recognition for Indonesian Speech Based on Fujisaki Model, proceeding of International Conference on Spoken Language Processing (Interspeech 2004), p. 2973-2976, Jeju Island, Korea, 2004, ISSN: 1225-441x

National Journal:

- Faridah, and **Nazrul Effendy**, The recognition of the lip motion patterns while uttering the Indonesian vowel phonemes, Jurnal Tekno Fisika, September 2012, vol. 1, No.2, pp 1-5, ISSN: 2089-7154
- **Nazrul Effendy**, Faridah, I Nyoman Kusuma Wardana, and Esti Puspitaningrum, A novel Indonesian intonation recognition system using binary matrix conversion of the pitch contour, Jurnal Penelitian dan Pengembangan TELEKOMUNIKASI, June 2008, vol. 13, No.1, pp 1-5, ISSN: 1410-7066
- **Nazrul Effendy**, Adnan Syarafi, Arditya Yulinggar, and I Nyoman Kusuma Wardana,

the application of fuzzy logic controller on the photovoltaic panel of the sun tracking system, Media Teknik, Edisi Mei 2008

- **Nazrul Effendy**, Singgih Hawibowo, and Balza Achmad, Optimization on Artificial Neural Networks to Control "kartini" nuclear research reactor with linear reference model, Media Teknik, Edisi Februari 2001

Selected National Conference:

- Amir Faisal, Faridah, **Nazrul Effendy**, Recognition of nominal value of a paper money based on its dominant color using neural net, proceeding of the conference on Applied Science for TECHNOlogy inNOVAtion (Astechnova) 2009, Yogyakarta, October 8, 2009, ISSN : 2086-0005
- **Nazrul Effendy**, Faridah, I Nyoman Kusuma Wardana, and Teguh Iryanto, Identification System of Speech Intonations for the monitoring and controlling of electric equipment using neural networks, proceedings of the conference on application and research in industrial technology, August 2008, ISBN: 978-979-18528-0-7
- **Nazrul Effendy**, Adnan Syarafi Ashfahani, Arditya Yulinggar, dan I Nyoman Kusuma Wardana, A fuzzy logic control application to the photovoltaic panels of sun tracking system, proceedings of the national conference on the application of information technology (SNATI 2008), 21 Juni 2008, Yogyakarta, ISSN 1907-5022
- **Nazrul Effendy**, M. Heikal Hasan dan Febry Wikatmono, The implementation of fuzzy logics to control the level and pH of water in a swimming pool, proceedings of the national conference on the application of information technology (SNATI 2008), 21 Juni 2008, Yogyakarta, ISSN 1907-5022
- **Nazrul Effendy**, Ridwan Herdiawan, Fikri Nur Muhammad dan I Nym Kusuma Wardana, A design of a control system of a microhydro power plant using a Fuzzy Logic Controller, Proceedings of National Seminar on Information Technology 2008, UPN veteran, Jogjakarta, 24 Mei 2008
- **Nazrul Effendy**, Singgih I Kurniawan, Intan Putri K, dan Nor Agny S. Utami, A vibration damping system with a Spring-Damper Model using Fuzzy Logic controller, Proceedings of National Seminar on Information Technology 2008, UPN veteran, Jogjakarta, 24 Mei 2008
- **Nazrul Effendy**, Rifqi Imanto, Aresdi Praha, dan I Nyoman Kusuma, The control of River water debit Based on Rainfall using Neuro-Fuzzy, proceedings of the Fourth Nasional Seminar on Technology, vol 8, UTY-Jogjakarta, 5 April 2008
- Nafisah, S., and **Effendy, N.**, The implementation of expert systems in the field of pharmacology and therapy as a web-based support decision making system, Proceedings of SNIKTI (National Conference on Kecerdasan Komputasional) II, 2001
- **Effendy, N.**, Setiawan, W., and Achmad, B., Implementation of Artificial Neural Networks on Frequency Spectrum Recognition, Proceedings of Seminar and Scientific Presentation of Basic Research in Nuclear Science and Technology, BATAN, 1998

Industrial Site Visits:

- Paiton Steam Power Plants, Paiton, East Java, February 28, 2009
- PT Petikemas Surabaya, East Java, www.tps.co.id , February 27, 2009
- PT Petrokimia Gresik, Gresik, East Java, Instruments, SCADA, February 27, 2009
- Processing Unit of Oil (Unit Pengolahan V), PT Pertamina, Cilacap, Central Java, February 2008
- PT Holchim, Cilacap, Central Java, February 2008
- Kamojang Power Plants, Garut, West Java, February 2008
- PT Polidayaguna, Ungaran, Central Java, 2008
- PT Krakatau Steel, Cilegon, West Java, February 2007
- PT Texmaco, February 2007
- Suralaya Steam Power Plants, Merak, West Java, February 2007
- PT Indonesia Power, Steam and Gas Power Plants, Semarang, April 2003

Computer Skills:

- Linux, Cygwin, Windows
- Microsoft Office
- Matlab and Simulink
- C/C++, (Borland C++, Borland C++ Builder, Microsoft Visual C++)
- Visual Basic, Pascal/Delphi
- Lab View
- Web design
- Autocad, Autodesk Inventor

Yogyakarta, February 27, 2015

Assoc. Prof. Dr. Nazrul Effendy