

CURRICULUM VITAE

A. Personal Identity

1. Full Name (with Titles) : Dr. Ir. Hendra Kusuma, M.Eng.Sc.
2. Functional Position : Lektor Kepala
3. Structural Position : Head of the Microelectronics and Embedded Systems for the Department of Electrical Engineering, Faculty of Intelligent Electrical and Informatics Technology
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B. Educational Background

	Undergraduate	Postgraduate	Doctoral
Name of Institution	ITS	Curtin University Of technology, Western Australia	ITS
Field of Study	Electronics	Electronics – Renewable Energy	Biometric – machine Learning
Year of Enrollment - Graduation	1983 - 1988	2000 - 2001	2008 - 2016

C. Brief Description of Research Relevant to Scientific Development in the Field of Study

Research on the development of Braille printer, research on intelligent electronic system based on Machine Learning – Deep Learning, which is applied on helping aids for visually impaired people, unmanned ships, as well as self driving cars.

D. Research Experience within the Last Five Years

No	Year	Research Title	Source of Funding
1	2020	Pengembangan Sistem Navigasi Cerdas untuk Boat Otonom ITS (<i>Development on Intelligent Navigation</i>)	2020 ITS Local Funds

		<i>System for Autonomous Boat ITS)</i>	
2	2020	User Interface (UX) dan Remote Command Control untuk Platform Mobil Otonomous (<i>User Interface (UX) and Remote Command Control for Autonomous Car's Platform</i>)	2020 ITS Local Funds
3	2020	Sistem Deteksi Dan Pelacakan Benda Pada Lintasan Kendaraan Berbasis Citra RGB-D Untuk Mendukung Self-Driving Car (<i>Object Detection and Tracking on Vehicle Roads Based on RGB-D Image in Support for Self-Driving Car</i>)	2020 ITS Local Funds
4	2020	Pengembangan Modul Kontrol dan Aktuator pada Ventilator Produksi Teknik Elektro ITS (<i>Development of Control and Actuator Modules on Ventilators Produced by ITS Electrical Engineering</i>)	2020 ITS Local (Department) Funds
5	2019	Uji Produksi Mesin Cetak Huruf Braille berkecepatan 400 karakter per detik (<i>Production Trial for Braille Printer with the Speed of 400 Characters per Second</i>)	Innovation Grant
6	2019	Pembuatan mesin Cetak Huruf Braille 2019 (<i>Production of 2019 Braille Printer</i>)	Direktorat. PMK, Dirjen Pendidikan usia dini, dasar dan menengah, Kemdikbud. (<i>Directorate of Human Development and Culture, Director General of Early Childhood, Primary, and Secondary Educations, Ministry of Education and Culture</i>)
7	2019	Pengembangan Teknik Pengenalan Ekspresi Wajah Bagi Penyandang Tunanetra Dengan Deep Learning Melalui Perangkat Wearable (<i>Development of Facial Expression Recognition Techniques with Deep Learning from Wearable Devices</i>)	2019 ITS Local Funds (Featured Field)
8	2019	Sistem Akuisisi Data Visual Otomatis Untuk Object Learning Pada Sistem Cerdas (<i>Automatic Visual Data Acquisition System for Object Learning on Intelligent System</i>)	2019 ITS Local (Department) Funds
9	2019	Rekayasa biosensor berbasis enzim acetylcholinesterase dan QCM (quartz crystal microbalance) untuk deteksi bahan insektisida (<i>Acetylcholinesterase Enzyme and QCM (Quartz Crystal Microbalance)-based Biosensor Manipulation for Insecticide Detection</i>)	2019 ITS Local Funds (Featured Field)
10	2018	Pengembangan Sistem Penghitung Nilai Sasaran Tembak Secara Otomatis Berbasis Pemrosesan Citra (<i>Development of Image Processing-based Automatic Shooting Target Score Counter System</i>)	2018 ITS Local Funds
11	2018	Feasibility Study Perancangan ECG 12 Channel terkoneksi internet untuk Screening penyakit jantung koroner di Puskesmas (<i>Feasibility Study on the Design of Internet Connected ECG 12-Channel for</i>	2019 ITS Local Funds (Featured Field)

		<i>Coronary Heart Disease Screening in Public Health Centre (Puskesmas))</i>	
12	2017	Pengembangan Prototipe Laik Industri Mesin Cetak Huruf Braille Berkecepatan 400 Karakter Per Detik (<i>Development of Industry-worthy Prototype of Braille Printer with the Printing Speed of 400 Characters per Second</i>)	Industrial Technology Development Program (PPTI) – Ministry of Research, Technology and Higher Education
13	2017	Pengembangan Teknik Pengenalan Uang Kertas Rupiah menggunakan Gabor Phase Congruency Image (<i>Development of Indonesian Rupiah Banknote Recognition Technique Using Gabor Phase Congruency Image</i>)	2017 ITS Local Funds
14	2017	Pengubah Analog ke Digital Flash dengan Prinsip Stokastik Menggunakan Field Programmable Gate Array untuk Sistem Akuisisi Data (<i>Analog to Digital Flash Converter with Stochastic Principles using Field Programmable Gate Array for Data Acquisition System</i>)	2017 Funding Assistance for State University with Legal Entity (BP PTNBH) 2017

E. Community Service Experience within the Last Five Years

No	Year	Title of Community Service	
1	2020	PELATIHAN SISTEM DIGITAL DAN IOT UNTUK MENDUKUNG SMART-PESANTREN SECARA ONLINE DIMASA PANDEMI COVID-19 UNTUK SISWA DAN GURU SMA TRENSAINS TEBUIRENG JOMBANG (<i>Training on Digital Systems and IoT in Support for Online & Smart Boarding School System during COVID-19 Pandemic for Students and Teachers of TRENSAINS High School in Tebuireng, Jombang</i>)	
2	2020	Workshop Teknik Pemeliharaan dan perbaikan Mesin Braille Bagi operator/guru SLB N Sentra Braille Indonesia (<i>Workshop on Maintenance Techniques and Repairment of Braille Printer for Operators/Teachers of Sentra Braille Indonesia State Special Education School</i>)	
3	2019	Pelatihan IT di Kelurahan Dr. Soetomo (KKN Tematik ITS) (<i>IT Training in Dr. Soetomo Sub-District (ITS Thematic Student Study Service)</i>)	
4	2019	Workshop on using Braille Embosser and Text Editor Software For the Blind and Visual Impairment Student	
5	2018	Pelatihan IT di Kelurahan Gayungan (KKN Tematik ITS) (<i>IT Training in Gayungan Sub-District (ITS Thematic Student Study Service)</i>)	
6	2017	Workshop Pengoperasian Mesin Cetak Braille untuk Guru dan Siswa Tunanetra SLB YPAB Surabaya (<i>Workshop on Operation of Braille Printers for Teachers and Visually Impaired Students in YPAB Surabaya Special Education School</i>)	
7	2017	Tenaga Ahli dalam Kegiatan "Perbaikan dan Penyempurnaan Mesin Embosser Braille, Braillo 400/200" kerjasama antara DTE dgn SLB Negeri Muara Enim Sumatra Selatan	

		<i>(Expert in the Event “Repairment and Completion of Braille Embosser, Braillo 400/200” in Cooperation Between the Department of Electrical Engineering and Negeri Muara Enim Special Education School in South Sumatra)</i>
8	2017	Tenaga Ahli dalam kegiatan "Perbaikan dan Penyempurnaan Mesin Embosser Braille, Braillo 400/200", Kerjasama antara Departemen Teknik Elektro FTI-ITS dengan SLB-A YPTN Mataram NTB pd hari Sabtu, 22 Oktober s/d Senin 24 Oktober 2016 di SLB-A YPTN <i>(Expert in the Event “Repairment and Completion of Braille Embosser, Braillo 400/200”, in Cooperation Between FTI-ITS Department of Electrical Engineering with YPTN Mataram Special Education School for Visually Impaired in West Nusa Tenggara from Saturday, 22 October until Monday, 24 October 2016 in YPTN Special Education School for the Visually Impaired)</i>
9	2017	Tenaga Ahli dalam Kegiatan "Perbaikan dan Penyempurnaan Mesin Embosser Braille, Braillo 400/200" kerjasama antara Departemen Teknik Elektro FTI-ITS dengan SLB-A YAPTI Makassar jl. Kapten Piere Tendean Blok M/7 Makassar. <i>(Expert in the Event “Repairment and Completion of Braille Embosser, Braillo 400/200”, in Cooperation Between FTI-ITS Department of Electrical Engineering with YAPTI Special Education School for the Visually Impaired in Makassar, Makassar jl. Kapten Piere Tendean Blok M/7 Makassar)</i>
10	2016	Tenaga Ahli dalam Kegiatan "Perbaikan dan Penyempurnaan Mesin Embosser Braille, Braillo 400/200" kerjasama antara DTE-ITS dgn SLBN Center Payakumbuh, Sumbar. Kamis, 15 Des s/d Sabtu, 17 Des 2016. <i>(Expert in the Event “Repairment and Completion of Braille Embosser, Braillo 400/200”, in Cooperation Between ITS Department of Electrical Engineering with the State Special Education School Center in Payakumbuh, West Sumatra. Thursday, 15 December – Saturday, 17 December 2016)</i>

F. Experience Writing in the Journal of Scientific Articles Within the Last Five Years

No	Scientific Article Title	Vol/No/Year	Title of Journal
1	Deep learning based facial expressions recognition system for assisting visually impaired persons	9/3/2020	Bulletin of Electrical Engineering and Informatics
2	Low Cost Optical-electronic Sensor Development Based on Raman Spectroscopy for Liquid	4/2/2020	JAREE (Journal on Advanced Research in Electrical Engineering)
3	Object Extraction Using Probabilistic Maps of Color, Depth, and Near-Infrared Information	4/1/2020	JAREE (Journal on Advanced Research in Electrical Engineering)
4	Automatic Self-checkout System Using SURF, Brute Force Matcher, and RFID for Payment Process Optimization at Supermarket	1/1/2019	IPTEK Journal of Proceedings Series
5	Face Recognition Against Varying Lighting Conditions Using oriented Gabor Phase Congruency Image Features	88/1/2016	Journal of Theoretical and Applied Information Technology

G. Experience on Oral Delivery of Paper on a Conference/Seminar within the Last Five Years

No	Name of Conference	Scientific Article Title	Time and Place
1	International Disability Inclusion Symposium 2020	Development of Tools for Blind Student and Their Education: Our Experiences	Tokyo Japan, 25 – 26 Januari 2020
2	Pengembangan Symbol Braille Pendidikan Khusus	Penyusunan buku teks pelajaran yang direkomendasikan untuk dialihbahasakan/ dicetak ke dalam huruf/symbol Braille	15 September 2020 s/d 18 September 2020

H. Experience on Book-Writing within the Last Five Years (Modul in soft form – My classroom)

No	Book Title	Year	No. of Pages	Publisher
1	SISTEM PENGATURAN DASAR (<i>Basics of Control System</i>)	2018	141	PENERBIT ASENI

I. Experience on Training Program

No	Name of Training Program	Time and Place	Organizer
1	Training of Trainers Calon Instruktur Cloud Computing Fresh Graduate Academy Digital Talent Scholarship 2020 (<i>Training of Trainers for Candidates of Cloud Computing Instructor of Fresh Graduate Academy Digital Talent Scholarship in 2020</i>)	Online – 18-19 August 2020	Pusat Pengembangan Profesi dan Sertifikasi, Kominfo (<i>Professional Development and Certification Centre, Ministry of Information</i>)
2	Training of Trainer Dosen untuk Program AWS Cloud Computing Course (<i>Training of Trainer for Lecturers for AWS Cloud Computing Course Program</i>)	Online. 14 July 2020 until the end of October 2020	Kementerian Pendidikan dan Kebudayaan bekerja sama dengan Amazon Web Services (<i>Ministry of Education and Culture</i>)

			<i>in Cooperation with Amazon Web Services)</i>

J. Acquisition of Intellectual Property Rights within the Last Five to Ten Years

No	Title/Theme of Intellectual Property Rights	Year	Type	Registration Number
1	MESIN CETAK BRAILLE (<i>Braille Printer</i>)	2019	International	P00201608742/ IDP000063834
2				

K. Experience in Formulating Other Public Policy/Social Engineering within the Last Five Years

No	Title/Theme/Type of Already Implemented Social Engineering	Year	Place of Implementation	Public Response
1				
2				

L. Awards within the Last Ten Years (from the Government, Associations, or other Institutions)

No	Type of Awards	Awarding Institution	Year
1			

2			

All of the filled data dan written in the personal identity are true and can be accounted legally. If in the future, a discrepancy occurs, I will accept the risk.

Surabaya, 02 September 2020



DR. IR. HENDRA KUSUMA M.ENG.SC