The Contributors

Ronnie S. Concepcion II is currently a candidate of Doctor of Philosophy degree in Electronics and Communications Engineering at the De La Salle University, Manila, in the area of artificial intelligence. His research interests are biosystems engineering, plant science, computational intelligence, computer vision, intelligent systems, and sustainable agriculture. His core research methodology is the integration of computer vision with scanning electron microscopy with energy dispersive X-ray analysis, Fourier transform infrared spectroscopy, UV-Vis spectroscopy, aquaphotomics, and light microscopy for nondestructive assay of crop signatures in adaptive irrigation control. He is currently the lead researcher of the Smart Farm project of DLSU. He received local and international research awards with the Young Researcher Award in ISCIIA (China, 2020) as the latest. He developed two novel vegetation indices for computational plant imaging and lettuce phenotyping. He is a Fellow of the European Alliance for Innovation, Fellow of the Royal Institute of Electronics Engineer in Singapore, an Associate Member of the National Research Council of the Philippines, and member of the Crop Science Society of America.

Sandy C. Lauguico is a graduate of Master of Science in Electronics and Communications Engineering degree in De La Salle University, Manila, Philippines working on a computational intelligence-based smart aquaponics project. She attained her Bachelor of Science in Electronics Engineering degree from Asia Pacific College in

Makati City, Philippines back in 2017. She had an internship experience as a Quality Assurance Engineering Intern from a Japanese-based company for seven months and then continued as a part-time faculty in a local college for a year. She has one published paper entitled Design of an Audio Transmitter with Variable Frequency Modulation **Parameters** Using National Instruments LabVIEW 2011 and Universal Software Radio Peripheral 2920 as an Alternative Public Address System for Asia Pacific College, published in Manila by IEEE 10th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management (HNICEM) in 2019. She has two more on-going papers for publication by IEEE 9th CIS-RAM and IEEE 11th HNICEM. Her current research focuses on providing environmental control and automation in a smart aquaponics setup which will further be used for future analysis based on artificial intelligence. Engr. Lauguico is an active member of the Institute of Electrical and Electronics Engineers and the Institute of Electronics and Communications Engineers of the Philippines. She also worked as a session chair and a technical committee in the IEEE 11th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management (HNICEM). She is a licensed electronics engineer and technician, and a Class B amateur radio operator.

ArgelA. Bandala received his Bachelor of Science in Electronics and Communications Engineering from Polytechnic University of the Philippines in 2008. He received his Master of Science in Electronics and Communication s Engineering and Doctor of Philosophy in Electronics and Communications Engineering from De La Salle University in 2012 and 2015 respectively. He is currently an Associate Professor and Researcher at De La Salle University. He is a full professor in the Electronics and Communications Engineering Department in the De La Salle University and a researcher of the Intelligent Systems Laboratory. His research interests are artificial intelligence, algorithms, software engineering, automation and swarm robotics. Dr. Bandala is very active in the IEEE Philippine Section where he served as the Section Secretary for the years 2012 to present. He also serves as the secretary of IEEE Computational Intelligence Society Philippine Section from 2012 to present. He is also an active member of the IEEE Robotics and Automation Society from 2013 to present.

Elmer P. Dadios is presently a Full Professor at the De La Salle University, Manila, Philippines under the Manufacturing Engineering and Management Department, and the Graduate Program Coordinator of Gokongwei College of Engineering. He currently leads government funded researches on bomb removal robot, traffic surveillance, and smart aquaponics. He obtained his degree on Doctor of Philosophy (Ph.D.) at the Loughborough University, United Kingdom. He accomplished his degree in Master of Science in Computer Science (MSCS) at De La Salle University (DLSU), Manila and his Bachelor of Science in Electrical Engineering degree from Mindanao State University (MSU), Marawi City, Philippines. For his professional experiences, he became part of a Scholarship Committee and Administrative Staff working for the Department of Science and Technology (DOST) Philippine Council for Industry, Engineering Research and Development. He was as well a Research

Coordinator and a Director at the DLSU. He had experiences as Session Chair, Program Chair, Publicity Chair, General Chair in various local and international conferences, and became an External Assessor at the University of Malaysia. He won numerous awards such as Top 100 Scientists Listed in Asian Scientist Magazine and Leaders in Innovation Fellowship "Fellow" given by the United Kingdom Royal Academy of Engineering. He had published numerous technical and scientific research papers regarding intelligence, robotics, artificial software engineering, automation and intelligent systems.

Dr. Dadios is presently the President of the Mechatronics and Robotics Society of the Philippines. Aside from being a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), he is also the Region 10 Executive Committee, the Section and Chapter Coordinator, and the Section Elevation Committee Chair. He is also a Vice Chair of the National Research Council of the Philippines and an active member of the Steering Committee, Asian Control Association (ACA), the Philippines American Academy of Science and Engineering (PAASE), and the Society of Manufacturing Engineers (SME).

Ma. Teodora E. Gutierrez is a full-time faculty member in the Industrial Engineering Program at the Technological Institute of the Philippines. She is an ASEAN Engineer (AE) and a certified Professional Industrial Engineer (PIE). She earned her degrees in Master of Science in Industrial Engineering at the University of the Philippines, Diliman in 2006, and Master in Business Administration at the Philippine School of Business Administration in 2001. Also, she finished her Bachelor of Science in Industrial Engineering at Polytechnic University of the Philippines (PUP) in 1997. Currently, she is taking up Doctor of Engineering in Engineering Management at Polytechnic University of the Philippines Open University. Her research include optimization, interests operations research and ergonomics.

The contributors 43

Arriane A. Palisoc is a Professional Industrial Engineer (PIE) awarded by the Philippine Institute of Industrial Engineers (PIIE) and an ASEAN Engineer (AAE) awarded by the ASEAN Federation of Engineering Organizations. She is a graduate of Bachelor of Science in Industrial Engineering at Technological Institute of the Philippines (2008) and a master's degree holder in Industrial Engineering and Management from Polytechnic University of the Philippines, Manila (2011). Presently, she is taking up Doctor of Engineering in Engineering Management at Polytechnic University of the Philippines Open University System. She is currently the Industrial Engineering Program Chair and Associate Professor at Technological Institute of the Philippines, Quezon City. Her research interests include operations management, ergonomics, and organization and decision systems. She is an active member of the Philippine Institute of Industrial Engineers (PIIE).

Ira C. Valenzuela is an Associate Professor of the Department of Manufacturing Engineering and Management, Gokongwei College of Engineering, De La Salle University. She earned her PhD Electronics and Communications Engineering at De La Salle University. She has a Master of Science in Electronics and Communications Engineering at Mapua Institute of Technology. She is the current Managing Editor of the Journal of Computational Innovations and Engineering Applications. Her previous work was focused on smart farms wherein she developed an AIcontrolled environmental system for high value crops such as cherry tomato and lettuce. The research project was funded by USAID-STRIDE and was completed on the target timeline. Most of her works include artificial intelligence, evolutionary computing, artificial neural networks, fuzzy logic, vision system, wireless sensor network and systems automation.

Neil Efren A. Villanueva is an electronics engineer who obtained his Bachelor's degree at Colegio de Dagupan. He is currently associated with Converge ICT Solutions Inc as the head of planning and engineering for In-Building Solutions Department which includes all design for fixed access fiber broadband network build. He Is also part of internal technical working group which focuses on researching latest fiber technology and network facility build In-Building and outside plant systems integrated into existing system design to increase the efficiency for facility utilization that translate into increase in profit margin. His research interests are Energy Engineering and Sustainable Wired and Wireless Network Elements.

Nelson S. Andres is recognized by Philippine Professional Regulatory Board (PRC) both as Professional Electrical Engineer (PEE) and an ASEAN Chartered Professional Engineer (ACPE). He earned his Bachelor's Degree in Electrical Engineering from Mapua Institute of Technology in 1999 and his Master's degree in Mechanical Engineering, Major in Mechatronics from Andong National University in South Korea in 2006. His fields of specialization include electrical system design, transmission and distribution systems, power system analysis and mechatronics.

Christopher Valencia Maglaque earned his Bachelor's degree in Electronics Engineering at the Bataan Peninsula State University. He earned his license in Electronics Engineering in 2011. He was also a graduate of Master in Engineering Management on the same university. Already presented his research and extension papers in both national and international conferences. He is currently working with his approved DOST PCAARRD Project entitled "Development and Validation of Mussels Automated Depuration System". He has rendered service at Smart Telecommunications Inc. as Field Engineer. He is currently a permanent faculty member of College of

Engineering in Bataan Peninsula State University. Also, as an ECE Faculty member, he served as an adviser of IECEP Student Organization for couple of years. He was also the past-immediate Governor of Institute of Electronics Engineering of the Philippines, Inc. – Bataan Chapter (IECEP) for the years 2018 and 2019 and still serves the IECEP professional organization as an Adviser. Currently, he is pursuing his doctorate degree in Doctor in Engineering Management at Polytechnic University of the Philippines, Sta. Mesa.

Jay Robert B. del Rosario is an experienced Associate Professor with a demonstrated history of working in the higher education industry locally and internationally. Skilled in various programming languages, mechatronics and robotics. Strong education professional with a Doctor of Philosophy focused in Electronics and Communications Engineering from De La Salle University- Manila and Doctor of Philosophy (Cand.) in Education major in Educational Management from Cavite State University-Don Severino delas Alas Campus. Dr. Del Rosario was a former Professor and chairman of Mechatronics and Robotics Society in the Kingdom of Bahrain and Kingdom of Saudi Arabia from 2008-2011. His research interests include Mechatronics, Computer Architecture, Webpage Design and Development, Software Engineering, Industrial Automation and Computational Intelligence. Most of his research articles can be viewed in Scopus, Google Scholar and Researchgate and a Professional Member of IEEE.

Zion Eric O. Chan was born in Cavite, Philippines in 1992. He is a graduate of B.S. Degree in Computer Engineering at De La Salle University, Manila.

Glenn Rommel P. Comendador was born in Las Pinas City, Philippines in 1993. He is a graduate of B.S. Degree in Computer Engineering at De La Salle University, Manila.

Mac Excel S. Fallar was born in Manila, Philippines in 1992. He is a graduate of B.S. Degree in Computer Engineering at De La Salle University, Manila.

Laureen Audrey R. Garcia was born in California, USA in 1992. She is a graduate of B.S. Degree in Computer Engineering at De La Salle University, Manila.

Jose Mari Luis L. Lerit was born in Pampanga, Philippines in 1992. He is a graduate of B.S. Degree in Computer Engineering at De La Salle University, Manila.

Cyd Laurence Santos is an Assistant Professor in the Department of Computer Engineering at University of Perpetual Help System DALTA. He has a Bachelor's degree in Computer Engineering from San Sebastian College Recoletos de Cavite. He received his Master of Engineering with Specialization in Computer Engineering at the Pamantasan ng Lungsod ng Maynila. He is a lifetime member of the Institute of Computer Engineers of the Philippines Region IVA (ICpEP-IVA). His main works are "Low-Cost, Automated, Rapid Bio Composting with SMS Monitoring System" and "Automated Water Quality Monitoring and Control for Milkfish Pond". His research interests are in the field of control systems, internet of things and robotics.

Louis Angelica M. Villarin is a graduate of Bachelor of Science in Computer Engineering at the University of Perpetual Help System DALTA. She is currently an Associate Software Engineer working in SAP Materials Management. She is a member of the Mechatronics and Robotics Society of the Philippines (MRSP) and was awarded 2nd Runner-up in the Mechatronics

The contributors 45

Skills Competition 2018 and 2019. Her interests are in the field of mechatronics, robotics and networks.

Mica Margarette N. Ducusin received her Bachelor of Science in Computer Engineering at the University of Perpetual Help System DALTA. She conducted her On-the-Job Training at the AMS Asia Inc. She is a former Junior Software Analyst at GDS Global Services Philippines and currently an Associate Software Engineer at the Accenture Inc. Her interests are in the field of control system and robotics.

Carmina Louden Sanchez received her Bachelor of Science in Computer Engineering at the University of Perpetual Help System DALTA. She conducted her On-the-Job Training at the Almanza Metropolis Condominium Corporation. She is a member of the Institute of Computer Engineers of the Philippines (ICpEP) and is a Lean Six Sigma White Belt Certified. Her interests are in the field of control system and robotics.

Shiella Marie P. Garcia is a full-time faculty and the current Chairman of the Computer Engineering Department at University of Perpetual Help System DALTA. She received her Master in Engineering with Specialization in Computer Engineering at the Pamantasan ng Lungsod ng Maynila. Her main works are "Low-Cost, Automated, Rapid Bio Composting with SMS Monitoring System" and "Automated Water Quality Monitoring and Control for Milkfish Pond". She is a lifetime member of the Institute of Computer Engineers of the Philippines Region IVA (ICpEP-IVA). She is a Cisco Certified Network Associate (CCNA) and her research interests are in the field of networks, robotics and control systems.

April R. Mundo is an instructor of the Computer Engineering Department at University of Perpetual Help System DALTA. She has a Bachelor's degree in Computer Engineering from San Sebastian College Recoletos de Cavite. She is currently completing her MS in Management Engineering at the Pamantasan ng Lungsod ng Maynila. She is a former Technical Writer at Advanced Card Systems Ltd. and a former Senior Business Analyst at TapToPay Limited. She is a lifetime member of the Institute of Computer Engineers of the Philippines Region IVA (ICpEP-IVA).