

Profile

Name Surname Mr.Rawiphon Chotikunnan
Present Position Lecturer of Biomedical Engineering Program
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Original Institute College of Biomedical Engineering, Rangsit University
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Specialized Field of Academic

Specialized Field: Interactive media, Medical image processing, Robots and Control systems

Education, Educational Institution, Course of Study and Qualification

2019 Master of Engineering in Biomedical Engineering (Department of Biomedical Engineering)
Rangsit University

International Conference

R. Chotikunnan, P. Chotikunnan, T. Puttasakul, M. Sangworasil, T. Matsuura, and N. Thongpance, "A novel technique for 3D printer to create organ 3D model from DICOM file," in Proc. RSU International Research Conference, 2017..

2014 Bachelor of Information Technology in Interactive Design and Game Development
Dhurakij Pundit University

Internal and External Country Research Management Experiences

Published Journal

International journals indexed in Scopus

R. Chotikunnan, K. Roongprasert, P. Chotikunnan, P. Imura, M. Sangworasil, and A. Srisirawat, "Robotic Arm Design and Control Using MATLAB/Simulink," International Journal of Membrane Science and Technology, vol. 10, no. 3, pp. 2448-2459, 2023, doi: <https://doi.org/10.15379/ijmst.v10i3.1974>.

A. Wongkamhang, N. Wuttiapan, R. Chotikunnan, K. Roongprasert, P. Chotikunnan, N. Thongpance, M. Sangworasil, and A. Srisirawat, "Design and Develop a Non-Invasive Pulmonary Vibration Device for Secretion Drainage in Pediatric Patients with Pneumonia," Journal of Robotics and Control (JRC), vol. 4, no. 5, pp. 632-642, 2023, doi: <https://doi.org/10.18196/jrc.v4i5.19588>.

R. Chotikunnan, P. Chitikunnan, A. Ma'arif, N. Thongpance, Y. Pititheeraphab, and A. Srisirawat, "Ball and Beam Control: Evaluating Type-1 and Interval Type-2 Fuzzy Techniques with Root Locus Optimization," International Journal of Robotics and Control Systems (IJRCS), vol. 3, no. 2, pp. 286-303, 2023.

P. Chotikunnan, T. Puttasakul, R. Chotikunnan, B. Panomruttanarug, M. Sangworasil, and A. Srisiriwat, "Evaluation of Single and Dual image Object Detection through Image Segmentation using ResNet18 in Robotic Vision Applications," *Journal of Robotics and Control (JRC)*, vol. 4, no. 3, pp. 263-277, 2023.

P. Chotikunnan, R. Chotikunnan, A. Nirapai, A. Wongkamhang, P. Imura, and M. Sangworasil, "Optimizing Membership Function Tuning for Fuzzy Control of Robotic Manipulators Using PID-Driven Data Techniques," *Journal of Robotics and Control (JRC)*, vol. 4, no. 2, pp. 128-140, 2023.

P. Choitkunnan and R. Choitkunnan, "Dual design PID controller for robotic manipulator application," *Journal of Robotics and Control (JRC)*, vol. 4, no. 1, pp. 23-34, 2023.

International journals indexed in Scopus that are In Press

N. Thongpance, P. Dangyai, K. Roongprasert, A. Wongkamhang, R. Saosuwan, R. Chotikunnan, P. Imura, A. Nirapai, P. Chotikunnan, M. Sangworasil, and A. Srisiriwat, "Exploring ResNet-18 Estimation Design through Multiple Implementation Iterations and Techniques in Legacy Databases," *Journal of Robotics and Control (JRC)*, In press, 2023.

P. Imura, P. Bunchu, P. Chotikunnan, A. Nirapai, A. Wongkamhang, R. Chotikunnan, "Development of a System for Transmitting Medical Data and Diagnostic Images via the Internet for Hospitals in Thailand," *International Journal of Membrane Science and Technology*, In press, 2023.

M. Kiew-ong-art, P. Chitkunnan, A. Wongkamhang, R. Chotikunnan, A. Nirapai, P. Imura, M. Sangworasil, N. Thongpance, A. Srisiriwat, "Comparative Study of Takagi-Sugeno-Kang and Madani Algorithms in Type-1 and Interval Type-2 Fuzzy Control for Self-Balancing Wheelchairs," *International Journal of Robotics and Control Systems (IJRCS)*, In press, 2023.

International Conference

M. Kiewongart, M. Sangworasil, P. Chotikunnan, N. Thongpance, and R. Choitkunnan, "Applied system identification to the P matrix for adaptive P controller implementation in robotic arm simulation using Matlab/Simulink," in *Proc. RSU International Research Conference*, 2022.

M. Sangworasil, P. Chotikunnan, M. Kiewongart, N. Thongpance, and R. Choitkunnan, "The study of reduction in the tracking error of robotic arms using iterative learning control," in *Proc. RSU International Research Conference*, 2022.

R. Chotikunnan, P. Chotikunnan, T. Puttasakul, M. Sangworasil, T. Matsuura, and N. Thongpance, "A novel technique for 3D printer to create organ 3D model from DICOM file," in *Proc. RSU International Research Conference*, 2017.

R. Chotikunnan, M. Sangworasil, P. Chotikunnan, T. Matsuura, and N. Thongpance, "Electric wheelchair simulation from Unity 3D for controller test," in *Proc. 2017 Biomedical Engineering International Conference (BMEICON-2017)*, Hokkaido, Japan, September 2017.

Conference

P. Chotikunnan, S. Khumlue, P. Duangpim, N. Thongpance, M. Sangworasil, T. Matsuura, R. Chotikunnan, and W. Kacntanu, "A design of the intelligent wheelchair," in *Proc. 10th Biomedical Engineering Conference (BMECON-2018)*, King Mongkut's University of Technology North Bangkok (KMUTNB), Thailand, June 2018.

Work Experiences

- 2011-2015 Control and Instrumentation Engineer, Bitrast Industrial Technology Research Company Limited.
- 2009-2015 Training 5 Day for Robot Programming, Samkhok School Pathumthani.
- 2018-2019 Training 3 Day for Game development, Satriwitthaya 2 School, Bangkok.
- 2016-2022 Research Assistant College of Biomedical Engineering, Rangsit University
- 2016-2022 Special lecturer, College of Biomedical Engineering, Rangsit University
- 2022-2023 Lecturer, Faculty of Information Technology and Digital Innovation, Digital Innovation and Media Arts North Bangkok University
- 2023-Present Lecturer, College of Biomedical Engineering

Researches: Name, Published Year, Publicize and Investment

Researches

- 2012-2015 [Group member] (5.4624 million baht), "Train control duplication system and Alstom engine working test," under Thailand Railway Technology Development Institute Project (NSTDA) and budget from National Research Council of Thailand: NRCT.
- 2012-2013 [Group member] (~300 thousand baht), "Develop Tamarind Machine Production," Office of the Permanent Secretary Science.
- 2016-2017 [Group member] (~210 thousand baht), "Oscillating saw machine for Histopathology," Rangsit University.
- 2016-2018 [Group member] (~1.319 million baht), "Electrical Wheelchair Design that is able to change inclination level and automatic balance," National Research Council of Thailand: NRCT.
- 2017-2018 [Group member] (~591 thousand baht), "Genius Electrical Wheelchair Design," Research Institute of Rangsit University.
- 2017-2018 [Group member] (~306 thousand baht), "Design Study and Build the Assist Automatic Walking Equipment," Research Institute of Rangsit University.
- 2017-2018 [Group member] (~4.547 million baht), "Increase people with Hearing Impairment Ability Media Development in daily by Android system process," Educational Promotion and Development Fund for Handicapped.
- 2018-2019 [Group member] (~125 thousand baht), "A study on the design and construction of the robotic arm device imitates movement in the human arm," Research Institute of Rangsit University.
- 2018-2019 [Group member] (~4.370 million baht), "Propel Medical Devices Research for build commercial value," Department of Industry Promotion, Ministry of Industry.
- 2018-2019 [Group member] (~125 thousand baht), "Design chest vibrate innovation for drainage secretion of pediatric patient and older person," Research Institute of Rangsit University.
- 2019-2020 [Group member] (~6.505 million baht), "Omni Directional Assistive Electric Wheelchair," National Research Council of Thailand: NRCT.
- 2023-2024 [Group member] (~266 thousand baht), "Development of mini Scara robots commanded by Matlab program for the study of control system theory," Academic Services Center, Rangsit University.

Training and Glorious Biography

The Excellently of Research, “The Application of Fuzzy Logic Control to Balance a Wheelchair,” The 40th Anniversary of Graduate School of Srinakharinwirot University, 2014.

Background/Foreground and RTOS on Microcontroller, Advanced Technology Center for Manufacturing Advanced Technology, King Mongkut 's University of Technology Thonburi, 2013.

Promodel, Advanced Technology Center for Manufacturing Advanced Technology, King Mongkut 's University of Technology Thonburi, 2013.

Joint Workshop for Global Engineers in Asia 2014 Hosted by University Teknologi Malaysia, 2014.

Quality Youth Hall of the Year 2010, Foundation of Science and Technology Council of Thailand, 2010.

Host of Pre BME-Camp [3 Day], Rangsit University, 2017-2018.

Host of Res BME Camp [4 Month], Rangsit University, 2017-2018.

Host of Sumo Robot Camp 1-12 [5 Day], Pathumwan Institute of Technology, 2008-2014.

Medical Devices and Robotics Design by Hyper work program, Workshop and Case Study, 2016.

Academic Service, Mission Hospital, Patong Hospital, 2016.

Medical Devices Innovation Development Tanning 4.0, supported by Department of Industry Promotion, 2016.

Strategy and Research Planning Conference for build innovation and propel Thailand policy 4.0, Digital Group, Internet of Thing and Robot Group and Automatic System Group, 2016.

First Prize, The Best Poster Award, RSU National &International Conference 2017, Poster Contest and International Research Presentation, Medicine and Health Science Group, 2017.

Innovation Award in Best Level, Project Name is “The Rehabilitative Walker Using Mecanum Wheel Direction” in Thailand Research Expo 2017, National Research Council of Thailand: NRCT, 2017.

Assessor Program Training, Thailand Professional Qualification Institute

Develop People, Develop Nation Convention by Personal International Standard System, Thailand Professional Qualification Institute

General Regulation for Authorize Personnel through ISO/IEC 17024 Standard Training, Thailand Professional Qualification Institute

Honorable Mention Award, Medical Device Inno Awards 2018, Project Name is “Surround Electrical Wheelchair Direction by Macanum wheels, Plastic Institute, 2018.

Creative Award, Medical Device Inno Awards 2018, Project Name is “Vibrate Lung Machine to dissolve phlegm, Plastic Institute, 2018.

First Prize, Robot Technology for Ageing Care, MDA Congress, Project Name is “Wheelchair Robot to Assist Disabled, Thai Biomedical Engineering Research Association, 2018.

Petchra Pra Jom Klao Research Scholarship Academic Year 2018, King Mongkut's University of Technology Thonburi

Innovation Award in Best Level and Gold, Project Name is “Intelligent Wheelchair Direction” in Thailand Research Expo 2018, National Research Council of Thailand: NRCT, 2018.

The Best Poster Award, Project Name is “Intelligent Wheelchair Direction” in Thailand Research Expo 2018, National Research Council of Thailand: NRCT, 2018.