**CONTENT**

**Page**


**1.** MPC Based Trajectory Planning for Permanent Magnet Synchronous Motor... ..... .....**1**
**Nhat Nam Dang, Duc Anh Le, Vinh Hao Nguyen***
*Ho Chi Minh City University of Technology, VNU-HCM, Vietnam*

**2.** Design of a Wheelchair Control System Based on Hand Gesture Recognition Using ResNet18. ..... .....**12**
**Vi Do Tran[1*], Cong Trung Nguyen[2]**
*[1]Ho Chi Minh City University of Technology and Engineering, Vietnam*
*[2]Intel Products, Vietnam*

**3.** Dedicated SoC Peripheral Design for Power Control Applications on the Xilinx Ultrascale+ Platform..... .....**21**
**Ngoc-Anh Truong, Hoang-Linh Thai, Thanh-Giau Nguyen***
*Ho Chi Minh City University of Technology and Engineering, Vietnam*

**4.** Probability Distribution of Solar Radiation to Determine the Output Power of the PV System Under Uncertain Conditions..... .....**32**
**Duy Dung Nguyen, Thai An Nguyen*, Tien Dat Tran, Van Dai Nguyen, Khoa Thanh Pham, Trong Nghia Le**
*Ho Chi Minh City University of Technology and Engineering, Vietnam*

**5.** A Study on Determining the Output Power of Wind Energy Generation Considering Uncertainty in Input Power Forecasting... ..... .....**43**
**Le Trung Tin Doan, Thai An Nguyen*, Le Huu Tri Phan, Trong Nghia Le, Thi Thu Hien Huynh**
*Ho Chi Minh City University of Technology and Engineering, Vietnam*

**6.** Compact Symmetric Quad-Arm Meander-Line RFID Tag Antenna for Metallic Surface Applications.. ..... .....**54**
**Minh Tan Nguyen***
*Ho Chi Minh City University of Technology (HCMUT), VNU-HCMC, Vietnam*

**7.** Reproducible Audio Chaotic Masking With a Chua-Type Oscillator and Key-Sensitivity Analysis..... .....**66**
**Thi Tuoi Phan[1], Vu Thang Nguyen[2], Anh Tuan Phan[3], Duc Hung Pham[1*]**
*[1]Hung Yen University of Technology and Education, Vietnam*
*[2]Dai Nam University, Vietnam*
*[3]Control Automation in Production and Improvement of Technology Institute (CAPITI), Vietnam*

**8.** Research and Simulation Using the MPPT Fuzzy Logic Algorithm to Optimize PV Power..... .....**75**
**Hien-Thanh Le*, Dung-Quoc Pham**
*Ho Chi Minh City University of Industry and Trade, Vietnam*

**9.** Enhancing Semantic Coherence in Image Captioning via a Parameter-Efficient Refinement Framework. ..... .....**87**
**Huynh Anh Ngan Ha, Lam Hoang Phu Bui, Minh Sam Lam, Thi Dinh Nguyen***
*Ho Chi Minh City University of Industry and Trade, Vietnam*

**10.** An Improved Speed Controller for FOC IM Drive Using Fuzzy Logic... ..... .....**98**
**Huu Hau Vo[*], Quang Tri Thieu, Trong Dao Tran**
*Ton Duc Thang University, Vietnam*

**11.** A Unified Multi-Task Deep Learning Framework for Robotic Bin-Picking of Planar Objects. ..... .....**109**
**The-Thinh Pham[1], Tuan-Khanh Nguyen[2*], Chi-Cuong Tran[3], Quang-Huan Dong[2], Duy-Tan Do[4], Hoang-Vinh-Khang Nguyen[2], Quang-Chien Nguyen[4]**
*[1]Can Tho University of Technology, Vietnam*
*[2]Vietnamese-German University, Vietnam*
*[3]National Taiwan University of Science and Technology, Taiwan, Vietnam*
*[4]Ho Chi Minh University of Technology and Engineering, Vietnam*

**12.** Automatic Information Extraction From Student ID Card Images Using DB and VietOCR: A Case Study at a Vietnamese University..... ..... ....**120**
**Bao-Khanh Hoang[1], Van-Hai Ngo[1], Xuan-Truong Tran[1], Dung Nguyen[1*], Duc-Phuc Nguyen[2]**
*[1]University of Sciences, Hue University, Vietnam*
*[2]University of Arts, Hue University, Vietnam*

**13.** Application of Comics Generation Techniques in the Visualization of Vietnamese Folk Tales..... ..... ...**132**
**Minh Tan Le[*], Dinh Tan Loc Nguyen**
*Ho Chi Minh City University of Technology and Engineering, Vietnam*

**14.** Advanced Control Solution for Three-Phase Induction Motors in Magnetic Saturation Region..... ..... ..**142**
**Vinh Quan Nguyen[1], Nhan Bon Nguyen[2], Thanh Lam Le[2*], Minh Tam Nguyen[2], Thuc Minh Bui[3]**
*[1]Industrial University of Ho Chi Minh City, Vietnam*
*[2]Ho Chi Minh City University of Technology and Engineering, Vietnam*
*[3]Nha Trang University, Vietnam*

**15.** Numerical Simulation of Heat Transfer Characteristics in a Finned Flat-Tube Microchannel Heat Exchanger..... ..... ....**154**
**Thanh Hao Nguyen, Thanh Tinh Tran, Thanh Trung Dang[*], Hoang Tuan Nguyen**
*Ho Chi Minh City University of Technology and Engineering, Vietnam*

**16.** Vibration of the Metal Foam Sandwich Plates With FG-CNTRC Face Sheets via Isogeometric Analysis.... ..... .....**165**
**Duy-Khang Pham, Minh-Tan Huynh, Tan-Hung Pham[*]**
*Ho Chi Minh City University of Technology and Engineering, Vietnam*

**17.** Placement Optimal of Electric Vehicle Charging Stations Considering Location Constraints in Distribution Networks Integrated Distributed Generation... ..... .....**177**
**Minh Thien Vo[1], Thi Kieu Tien Doan[2], Van Hau Nguyen[2], Quoc Khuong Le[2], Ngoc Dieu Vo[1*]**
*[1]Ho Chi Minh City University of Technology, VNU-HCM, Vietnam*
*[2]Can Tho University of Technology, Vietnam*

**18.** Single-Phase 4-Switch Current-Fed Inverter With Eliminate Leakage Current.. ..... .**188**
**Duc Tri Do[1], Bich Nga Truong Thi[1], Tan Hung Nguyen[2*]**
*[1]Ho Chi Minh City University of Technology and Engineering, Vietnam*
*[2]FPT University, Vietnam*

**19.** Evaluation of Probability Distribution Models for Seasonal Wind Speed Considering Elevation Variability..... **199**
**Thai An Nguyen*, Thi Tham Khong, Thi Kim Thao Nguyen, Huy Anh Quyen, Thi Thu Hien Huynh**
*Ho Chi Minh City University of Technology and Engineering, Vietnam*

**20.** Using Sweep Frequency Response Analysis and Dissolved Gas Analysis in Diagnosing of Power Transformer..... **210**
**Hoang Minh Vu Nguyen**
*University of Architecture Ho Chi Minh City, Vietnam*

**21.** Impact of Transmission Configuration on Efficiency and Energy Recovery in Electric Vehicles..... **223**
**Thanh Quang Le, Bao Hieu Nguyen Kim, Vinh Dat Ly*, Thanh Phuc Le, Quang Linh Truong**
*Ho Chi Minh City University of Technology and Engineering, Vietnam*

**22.** Optimal Charging Scheduling and Effective Generation Source Mobilization for Electric Vehicle Charging Stations... **234**
**Minh Thien Vo[1], Thi Kieu Tien Doan[2], Quang Ai Nguyen[2], Van Phu Huynh[2], Ngoc Dieu Vo[1*]**
*[1]Ho Chi Minh City University of Technology, VNU-HCM, Vietnam*
*[2]Can Tho University of Technology, Vietnam*

**23.** Solar Power Integration Into the Transmission Network for Reducing Power Loss and Optimizing Generation Costs – A Comparative Analysis..... **244**
**Vo Thanh Thang[1], Nguyen Trung Thang[2], Nguyen Thuy Hang[1], Le Chi Kien[1*]**
*[1]Ho Chi Minh City University of Technology and Engineering, Vietnam*
*[2]Ton Duc Thang University, Vietnam*

**24.** Evaluating the Technical, Economic and Environmental Efficiencies of Biomass Co-firing Technology in Coal Thermal Power Plants in Vietnam..... **258**
**Kien Quoc Vo**
*Ho Chi Minh City University of Technology (HCMUT), VNU-HCM, Vietnam*

**25.** Derivation and Analysis of the Disk Movement Equation for a Vertically Reciprocating Mixer..... **269**
**Thanh Tinh Tran**
*Ho Chi Minh City University of Technology and Engineering, Vietnam*

**26.** Estimate Effects of Reinforced Plain 2D-Woven Fabric Crimp on Elastic Constants of Geo-Composite by Analytical Models..... **277**
**Thanh Nhan Phan**
*Ho Chi Minh City University of Technology and Engineering, Vietnam*

**27.** Modeling Carbon-Nanotube-Based Nano-Electro-Mechanical Systems for Application in Mass Detection Sensors..... **289**
**Dai D. Mai[1*], Tuan D. Vu[2], Si T. Do[3]**
*[1]Ho Chi Minh City University of Technology and Engineering, Vietnam*
*[2]Vietnam-Korea Binh Duong College, Vietnam*
*[3]FPT Polytechnic, FPT University, Vietnam*