# 2021 Index IEEE Transactions on Industrial Informatics Vol. 17

This index covers all technical items—papers, correspondence, reviews, etc.—that appeared in this periodical during 2021, and items from previous years that were commented upon or corrected in 2021. Departments and other items may also be covered if they have been judged to have archival value.

The Author Index contains the primary entry for each item, listed under the first author's name. The primary entry includes the coauthors' names, the title of the paper or other item, and its location, specified by the publication abbreviation, year, month, and inclusive pagination. The Subject Index contains entries describing the item under all appropriate subject headings, plus the first author's name, the publication abbreviation, month, and year, and inclusive pages. Note that the item title is found only under the primary entry in the Author Index.

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- Secure Storage Auditing With Efficient Key Updates for Cognitive Industrial IoT Environment. Zheng, W., +, TII June 2021 4238-4247
- Simultaneous Localization of Multiple Unknown Emitters Based on UAV Monitoring Big Data. Li, J., +, TII Sept. 2021 6303-6313
- Social Image Sentiment Analysis by Exploiting Multimodal Content and Heterogeneous Relations. Xu, J., +, TII April 2021 2974-2982
- Support Multimode Tensor Machine for Multiple Classification on Industrial Big Data. Ma, Z., +, TII May 2021 3382-3390
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### **Bin packing**

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### Biochemistry

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- Residual Learning Diagnosis Detection: An Advanced Residual Learning Diagnosis Detection System for COVID-19 in Industrial Internet of Things. *Zhang, M.*, +, *TII Sept. 2021 6510-6518*

#### Biological system modeling

Modeling of Extreme Vulnerability Disclosure in Smart City Industrial Environments. *Tang, M.*, +, *TII June 2021 4150-4158* 

## Biomechanics

- A Wearable Hand Rehabilitation System With Soft Gloves. *Chen, X.*, +, *TII Feb. 2021 943-952*
- Intelligent Intraoperative Haptic-AR Navigation for COVID-19 Lung Biopsy Using Deep Hybrid Model. *Tai*, *Y*, +, *TII Sept. 2021 6519-6527*
- Neuromuscular Password-Based User Authentication. Jiang, X., +, TII April 2021 2641-2652

# **Biomedical electrodes**

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#### **Biomedical monitoring**

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#### **Biomedical optical imaging**

- Lightweight Attention Convolutional Neural Network for Retinal Vessel Image Segmentation. Li, X., +, TII March 2021 1958-1967
- Optic Disk and Cup Segmentation Through Fuzzy Broad Learning System for Glaucoma Screening. Ali, R., +, TII April 2021 2476-2487
- Unsupervised-Learning-Based Continuous Depth and Motion Estimation With Monocular Endoscopy for Virtual Reality Minimally Invasive Surgery. *Li*, *L*., +, *TII June 2021 3920-3928*

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# **Biometrics (access control)**

- Neuromuscular Password-Based User Authentication. *Jiang, X.*, +, *TII April* 2021 2641-2652
- Trustworthy Method for Person Identification in IIoT Environments by Means of Facial Dynamics. *Castiglione, A.*, +, *TII Feb. 2021 766-774*

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#### Blades

- A Conditional Convolutional Autoencoder-Based Method for Monitoring Wind Turbine Blade Breakages. Yang, L., +, TII Sept. 2021 6390-6398
- A Data-Mining Compensation Approach for Yaw Misalignment on Wind Turbine. Bao, Y., +, TII Dec. 2021 8154-8164
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- Wind Turbine Blade Bearing Fault Diagnosis Under Fluctuating Speed Operations via Bayesian Augmented Lagrangian Analysis. *Liu, Z.*, +, *TII July 2021 4613-4623*

#### **Blast furnaces**

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- A Blockchain-Based Secure Data Aggregation Strategy Using Sixth Generation Enabled Network-in-Box for Industrial Applications. *Lin, H.*, +, *TII Oct. 2021 7204-7212*
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# Blood

- Cyber–Physical Healthcare System With Blood Test Module on Broadcast Television Network for Remote Cardiovascular Disease (CVD) Management. *Guo, J.*, +, *TII May 2021 3663-3670*
- Modified GAN-CAED to Minimize Risk of Unintentional Liver Major Vessels Cutting by Controlled Segmentation Using CTA/SPET-CT. *Cheema, M.N.*, +, *TII Dec. 2021 7991-8002*

## **Blood vessels**

- Lightweight Attention Convolutional Neural Network for Retinal Vessel Image Segmentation. Li, X., +, TII March 2021 1958-1967
- Modified GAN-CAED to Minimize Risk of Unintentional Liver Major Vessels Cutting by Controlled Segmentation Using CTA/SPET-CT. *Cheema, M.N.*, +, *TII Dec. 2021 7991-8002*

## **Body area networks**

Enabling Privacy-Assured Fog-Based Data Aggregation in E-Healthcare Systems. *Guo, C.,* +, *TII March 2021 1948-1957* 

#### Boilers

Fuzzy K-Means Cluster Based Generalized Predictive Control of Ultra Supercritical Power Plant. Cheng, C., +, TII July 2021 4575-4583

- OntoPLC: Semantic Model of PLC Programs for Code Exchange and Software Reuse. *An*, *Y*., +, *TII March 2021 1702-1711*
- Zero Energy Building by Multicarrier Energy Systems including Hydro, Wind, Solar, and Hydrogen. *Mehrjerdi*, H., +, *TII Aug. 2021 5474-5484*

# **Boltzmann machines**

Deep-Learning-Based Blockchain Framework for Secure Software-Defined Industrial Networks. *Singh, M.*, +, *TII Jan. 2021 606-616* 

# Brakes

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#### Braking

Multidimensional Feature Fusion and Ensemble Learning-Based Fault Diagnosis for the Braking System of Heavy-Haul Train. *Liu, Z.*, +, *TII Jan.* 2021 41-51

#### Bridges (structures)

- HDCB-Net: A Neural Network With the Hybrid Dilated Convolution for Pixel-Level Crack Detection on Concrete Bridges. *Jiang, W.*, +, *TII Aug.* 2021 5485-5494
- Ontologies-Based Domain Knowledge Modeling and Heterogeneous Sensor Data Integration for Bridge Health Monitoring Systems. *Li, R.*, +, *TII Jan.* 2021 321-332

## Broadband networks

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# **Broadcast communication**

Distributed Demand Response for Multienergy Residential Communities With Incomplete Information. *Zhong, W.*, +, *TII Jan. 2021 547-557* 

## **Brushless DC motors**

- A Simple and Efficient Current-Based Method for Interturn Fault Detection in BLDC Motors. *Jafari*, A., +, *TII April 2021 2707-2715*
- High-Precision Sensorless Optimal Commutation Deviation Correction Strategy of BLDC Motor With Asymmetric Back EMF. *Zhang, H.*, +, *TII Aug. 2021 5250-5259*

#### **Building information modeling**

Utilizing Industry 4.0 on the Construction Site: Challenges and Opportunities. *Turner, C.J.*, +, *TII Feb. 2021 746-756* 

# **Building integrated photovoltaics**

Data-Driven Game-Based Pricing for Sharing Rooftop Photovoltaic Generation and Energy Storage in the Residential Building Cluster Under Uncertainties. *Xu*, *X.*, +, *TII July 2021 4480-4491* 

#### **Building management systems**

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- Distributed Deep Reinforcement Learning for Intelligent Load Scheduling in Residential Smart Grids. *Chung, H.*, +, *TII April 2021 2752-2763*
- Multiagent Reinforcement Learning for Energy Management in Residential Buildings. *Ahrarinouri, M.*, +, *TII Jan. 2021 659-666*
- Optimal Control of Chilled Water System With Ensemble Learning and Cloud Edge Terminal Implementation. *Deng, S.*, +, *TII Nov. 2021 7839-7848*
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- Stochastic Optimal Energy Management and Pricing for Load Serving Entity With Aggregated TCLs of Smart Buildings: A Stackelberg Game Approach. *Zhang, R., +, TII March 2021 1821-1830*
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Zero Energy Building by Multicarrier Energy Systems including Hydro, Wind, Solar, and Hydrogen. *Mehrjerdi, H.*, +, *TII Aug. 2021 5474-5484* 

# **Buildings (structures)**

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# Bushings

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#### **Butterworth filters**

A Vehicle Rollover Evaluation System Based on Enabling State and Parameter Estimation. *Wang, C.*, +, *TII June 2021 4003-4013* 

С

# Cables (mechanical)

Adaptive Output Feedback Control for 5-DOF Varying-Cable-Length Tower Cranes With Cargo Mass Estimation. *Wu, Y.*, +, *TII April 2021 2453-2464*High-Precision Trajectory Tracking Control of Cable-Driven Parallel Robots Using Robust Synchronization. *Xie, F.*, +, *TII April 2021 2488-2499*

#### Cache storage

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## Calibration

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## Cameras

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Three-Attention Mechanisms for One-Stage 3-D Object Detection Based on LiDAR and Camera. *Wen, L., +, TII Oct. 2021 6655-6663* 

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# Capacitance measurement

Finer Granularity DFT Bins With Moving Window for Capacitance Sensing. *Tyagi, T., +, TII Jan. 2021 504-513* 

# Capacitive sensors

Finer Granularity DFT Bins With Moving Window for Capacitance Sensing. *Tyagi*, *T*., +, *TII Jan. 2021 504-513* 

#### Carbon compounds

Zero Energy Building by Multicarrier Energy Systems including Hydro, Wind, Solar, and Hydrogen. *Mehrjerdi*, H., +, *TII Aug. 2021 5474-5484* 

# Carbon fiber reinforced plastics

- A Miniaturized Active Thermography System to Inspect Composite Laminates. Du, W., +, TII May 2021 3314-3323
- Reliability Assessment for Time-Slice Enhanced Bidirectional Thermal Wave Radar Thermography of Hybrid C/GFRP Defects. *Gong, J.*, +, *TII Sept. 2021 6094-6103*

#### Cardiovascular system

Cyber–Physical Healthcare System With Blood Test Module on Broadcast Television Network for Remote Cardiovascular Disease (CVD) Management. *Guo, J.*, +, *TII May 2021 3663-3670* 

## Casting

Nondestructive Defect Detection in Castings by Using Spatial Attention Bilinear Convolutional Neural Network. *Tang, Z.*, +, *TII Jan. 2021 82-89* 

## **Cellular networks**

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#### Cellular radio

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#### Cepstral analysis

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## **Channel allocation**

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## Channel bank filters

- Low-Complexity MIMO-FBMC Sparse Channel Parameter Estimation for Industrial Big Data Communications. *Wang, H.*, +, *TII May 2021 3422-3430*
- Taylor–Fourier Filter-Bank Implemented With O-Splines for the Detection and Classification of Faults. *Guillen, D., +, TII May 2021 3079-3089*

# Channel coding

On Resource Allocation of Cooperative Multiple Access Strategy in Energy-Efficient Industrial Internet of Things. Li, N., +, TII Feb. 2021 1069-1078

# **Channel estimation**

- Efficient Data Transmission Strategy for IIoTs With Arbitrary Geometrical Array. Zheng, J., +, TII May 2021 3460-3468
- Low-Complexity MIMO-FBMC Sparse Channel Parameter Estimation for Industrial Big Data Communications. *Wang, H.*, +, *TII May 2021 3422-3430*

# Chaos

- Initials-Boosted Coexisting Chaos in a 2-D Sine Map and Its Hardware Implementation. *Bao, H., +, TII Feb. 2021 1132-1140*
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# Checkpointing

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# Chemical engineering computing

- A Learning System Integrating Temporal Convolution and Deep Learning for Predictive Modeling of Crude Oil Price. *Niu*, *T.*, +, *TII July 2021 4602-4612*
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- Data-Driven Incipient Fault Detection via Canonical Variate Dissimilarity and Mixed Kernel Principal Component Analysis. *Wu, P., +, TII Aug. 2021* 5380-5390

# **Chemical industry**

A Multiagent-Based Methodology for Known and Novel Faults Diagnosis in Industrial Processes. *El Koujok, M.*, +, *TII May 2021 3358-3366* 

# **Chemical reactors**

- Adaptive Critic Designs for Optimal Event-Driven Control of a CSTR System. Yang, X., +, TII Jan. 2021 484-493
- Data-Driven Fault Diagnosis Using Deep Canonical Variate Analysis and Fisher Discriminant Analysis. *Wu, P., +, TII May 2021 3324-3334*
- Data-Driven Incipient Fault Detection via Canonical Variate Dissimilarity and Mixed Kernel Principal Component Analysis. *Wu, P.*, +, *TII Aug. 2021* 5380-5390

# **Chirp modulation**

Reliability Assessment for Time-Slice Enhanced Bidirectional Thermal Wave Radar Thermography of Hybrid C/GFRP Defects. *Gong, J.*, +, *TII Sept. 2021 6094-6103* 

# **Choppers (circuits)**

A State-of-the-Art Review on Soft-Switching Techniques for DC–DC, DC– AC, AC–DC, and AC–AC Power Converters. *Mohammed, S.A.Q.*, +, *TII Oct. 2021 6569-6582* 

# Circuit breakers

- Intelligent Fault Location in MTDC Networks by Recognizing Patterns in Hybrid Circuit Breaker Currents During Fault Clearance Process. *Tzelepis*, D., +, *TII May 2021 3056-3068*
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A Novel E-DTDOA Based One-Way Ranging Using UWB-IR With Unsynchronized Anchors. Vashistha, A., +, TII Feb. 2021 1274-1286

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#### **Closed circuit television**

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- A Switching Control Scheme With Increment Estimate of Unmodeled Dynamics. *Zhang, Y.*, +, *TII Sept. 2021 6054-6061*
- Adaptive Output Feedback Control for 5-DOF Varying-Cable-Length Tower Cranes With Cargo Mass Estimation. *Wu*, *Y*., +, *TII April 2021 2453-2464*
- An Adaptive Dynamic Programming Scheme for Nonlinear Optimal Control With Unknown Dynamics and Its Application to Turbofan Engines. *Sun*, *T.*, +, *TII Jan. 2021 367-376*
- Attitude Control of UAVs Based on Event-Triggered Supertwisting Algorithm. *Tian, B., +, TII Feb. 2021 1029-1038*
- Composite Learning Enhanced Neural Control for Robot Manipulator With Output Error Constraints. *Huang, D., +, TII Jan. 2021 209-218*
- Cooperative Control-Based Task Assignments for Multiagent Systems With Intermittent Communication. *Wang*, B., +, *TII Oct. 2021 6697-6708*
- Data-Driven Multiobjective Predictive Optimal Control of Refining Process With Non-Gaussian Stochastic Distribution Dynamics. *Li*, *M*., +, *TII Nov.* 2021 7269-7278
- Demand Forecasting of the Fused Magnesia Smelting Process With System Identification and Deep Learning. Chai, T., +, TII Dec. 2021 8387-8396
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- Fixed-Time-Convergent Generalized Extended State Observer Based Motor Control Subject to Multiple Disturbances. *Piao, M.*, +, *TII Dec. 2021* 8066-8079
- High-Precision Trajectory Tracking Control of Cable-Driven Parallel Robots Using Robust Synchronization. Xie, F., +, TII April 2021 2488-2499
- Integrated Approach to Design and Implementation of a Single-Phase Current Regulator With Antiwindup Mechanism. *McNabb, L.*, +, *TII Feb.* 2021 1231-1243
- Intelligent Spectrum Controlled Supplemental Lighting for Daylight Harvesting. *Mohagheghi, A., +, TII May 2021 3263-3272*
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- Robust Model Predictive Control of Gate-Controlled Series Capacitor for LFC of Power Systems. *Oshnoei*, *A.*, +, *TII July 2021 4766-4776*
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- Vulnerability Assessment of Conservation Voltage Reduction to Load Redistribution Attack in Unbalanced Active Distribution Networks. *Choeum*, D., +, *TII Jan. 2021 473-483*

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- Clothing Sale Forecasting by a Composite GRU–Prophet Model With an Attention Mechanism. *Li*, *Y*, +, *TII Dec. 2021 8335-8344*
- Learning to Estimate the Body Shape Under Clothing From a Single 3-D Scan. Hu, P., +, TII June 2021 3793-3802

#### **Clothing industry**

Clothing Sale Forecasting by a Composite GRU–Prophet Model With an Attention Mechanism. *Li*, *Y*, +, *TII Dec. 2021 8335-8344* 

#### Cloud computing

- A Blockchain-Based Deep Learning Approach for Cyber Security in Next Generation Industrial Cyber-Physical Systems. *Rathore, S.*, +, *TII Aug.* 2021 5522-5532
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- Adjustable Uncertainty Set Constrained Unit Commitment With Operation Risk Reduced Through Demand Response. Du, Y., +, TII Feb. 2021 1154-1165
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## **Design engineering**

Abnormality Detection for Drilling Processes Based on Jensen-Shannon Divergence and Adaptive Alarm Limits. Li, Y., +, TII Sept. 2021 6104-6113

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#### **Diagnostic radiography**

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#### **Power filters**

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