



Important Dates

Paper Submission
August 31, 2020

Acceptance Notification
October 14, 2020

Camera-Ready
October 24, 2020

AIoT 2020 Conference
November 18-20, 2020

Paper Submission Page

<https://isai-nlp-aiot2020.ariat.or.th>

Host and Co-Host

National Electronics and Computer Technology Center (NECTEC, Thailand)
Artificial Intelligence Association of Thailand (AIAT)
Sirindhorn International Institute of Technology, Thammasat University, Thailand
Electrical Engineering, Kasetsart University, Thailand
Tokyo Institute of Technology, Japan

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Thepchai Supnithi, NECTEC
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Denchai Worasawate, Kasetsart University

iSAI-NLP Track 1: Natural Language Processing

Rachada Kongkachadra (TU, Thailand).
Prachya Boonkwan (NECTEC, Thailand).
iSAI-NLP Track 2: Data Analytic & Machine Learning
Olarik Surinta (MSU, Thailand).
Worawut Yimyam (PRU, Thailand).

iSAI-NLP Track 3: Signal, Image & Speech Processing

Narit Nhoohom (MU, Thailand).
Anuchit Jitpattanakul (KMUTNB, Thailand).
Ngoc Hong Tran (VGU, Vietnam).
Thach-Thao Nguyen Duong (UB, France).

iSAI-NLP Track 4: Robotics, IoT & Embedded System

Yasuo Tan (JAIST, Japan).
Sumeth Yuenyong (MU, Thailand).
Yuto LIM (JAIST, Japan).

iSAI-NLP Track 5: Smart Industrial Technologies

Narumol Chumuang (MCRU, Thailand).
Adil Farooq (University of Cyprus, Cyprus).
Supakrit Sukjarern (MCRU, Thailand).

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The 15th International Symposium on Artificial Intelligence and Natural Language Processing (iSAI-NLP 2020) aims to facilitate technology and knowledge exchange international researchers/scholars in the field of artificial intelligence and natural language processing. The iSAI-NLP 2020 will cover a board range of research topics in natural language processing, data analytic, machine learning, robotics, Internet of things, embedded systems, signal, image, speech processing and smart industrial technology.

The International Conference on Artificial Intelligence and Internet of Things (AIoT 2020) aims to provide an international forum for researchers and industry practitioners. Our goals are to share their new ideas, original research results and practical development experiences related to artificial intelligence, smart technology, internet of things, and embedded system-related areas. The conference calls for research papers reporting original investigation results of research and development on real AI and IoT system applications and their system development. Topics in AIoT 2020 are listed below, but not limited to:

- **AIoT Track 1: Artificial Intelligence (AI) Fundamentals**
Adaptive Control, Agent and Multi-Agent Systems, Artificial Neural Networks Spiking, Artificial Neural Networks, Bayesian Models, Biologically Inspired Neural Networks, Architectures Interacting with The Brain, Convolutional Neural Networks, Deep Learning, Big Data, Distributed AI Systems and Architectures, Evaluation of AI Systems, Evolving Systems - Optimization, Affective Computing, Grid-Based Computing, Knowledge Acquisition and Representation, Knowledge Engineering, Machine Learning, Multi-layer Perceptron, Multilayer Perceptron and Kernel Networks, Learning and Adaptive Systems, Mathematical Foundations of AI and Intelligent Computational methods, Media Machine Learning in Engineering, Natural Language Processing, Object and Face Recognition, Ontologies, Reasoning Methods, Particle Swarm Optimisation, Planning and Resource Management, Planning and Scheduling.
- **AIoT Track 2: AI Applications**
Autonomous and Ubiquitous Computing, Biomedical systems, Bioinformatics Coding, Collective Computational Intelligence, Color/Image Analysis, Computer Vision, Crisis and Risk Management, Data Fusion, Data Mining and Information Retrieval, Decision Support Systems, Deep Learning, Real Time Systems, Social Networks, eBusiness, eCommerce, eHealth, eLearning, Engineering and Industry, Expert Systems, Finance and AI, Fuzzy Logic and Systems, Genetic Algorithms and Programming, Human-Machine Interaction, Intelligent Real Time Monitoring and Control, Knowledge Management, Cybersecurity, Forensics, BioMedical, Medical Informatics and Biomedical, Movement and Motion, Multimedia Computing, Multimedia Ontologies, Multimedia, Political Decision Making, Project Management Recommendation Systems, Recurrent Neural Networks and Reservoir Computing, Robotics and Virtual Reality, Signal and Image Processing, Knowledge Extraction, Smart Graphics, Smart Grids, Social Media and AI, Speech and Natural Language Processing, Speech Synthesis, Time Series and Forecasting, Mining and Exploratory Analysis.
- **AIoT Track 3: AI and Social Issues**
AI and Ethical Issues, Cybersecurity and AI, Deep Learning and Big Data Analytics, Deep Learning and Cybersecurity, Deep Learning and Forensics, Forensic Science, Intelligent Profiling and Personalisation, Machine Learning and Social, Social Impact of AI
- **AIoT Track 4: Embedded Systems**
Multiprocessors, reconfigurable platforms, memory management support, communication, protocols, network-on-chip, real-time systems, embedded Microcontrollers, Real-time systems: real-time related aspects such as software, distributed real-time systems, real-time OS, task scheduling, multitasking design, Embedded hardware support: System-on-a-chip, DSPs, hardware specification, synthesis, modeling, simulation and analysis at all levels for low power, power-aware, testable, reliable, verifiable systems, performance modeling, validation, security issues, real-time behavior and safety critical systems, Embedded software: memory management, object-oriented aspects, virtual machines, scheduling, concurrent software for SoCs, distributed/resource aware OS, OS and middleware support: Hardware/software co-design: Methodologies, test and debug strategies, real-time systems, specification and modeling, design representation, synthesis, partitioning, estimation.
- **AIoT Track 5: Information and Communication Technology:**
Artificial Intelligence, Internet of Technology, Data Science, Telecommunication, Electrics and Electronics, Software and Hardware for ICT, ICT Policy/Strategy, Software Engineering, Semantic Web.
- **AIoT Track 6: Internet of Things**
All ranges of applications on embedded system, including speech processing, image processing, network computing, distributed computing, parallel computing and power conversion, Application-specific processors and devices: Network processors, real-time processor, media and signal processors, application specific hardware accelerators, reconfigurable processors, low power embedded processors, biofluidic processors, Bluetooth, hand-held devices. Industrial practices and benchmark suites: System design, processor design, software, tools, case studies, trends, emerging technologies, experience maintaining benchmark suites, representation, interchange format, tools, copyrights, maintenance, metrics, Curriculum issues, teaching tools and methods, New challenges for next generation embedded computing systems, arising from new technologies (e.g., nanotechnology), new applications (e.g., pervasive or ubiquitous computing, embedded internet tools) and new principle (e.g., embedded Engineering).
- **AIoT Track 7: Management Technology**
Service science, management and engineering, Operations, Logistics and Supply chain management, Optimization, Probabilistic and Statistical Model, Economics, Occupational safety and health management, Ergonomics, Human Resource and Organization management, Environmental management.
- **iSAI-NLP Track 1: Natural Language Processing**
Cognitive aspects of natural language processing Corpus and Language Resources Corpus-based language modeling, Dialog Systems, Information Retrievals, Language and Ontology Unifying, Language Engineering, Language Learning, Language processing in internet applications Language for Disability Linguistic models of language, Linguistic Resources, Machine Translation, NLP Applications, NLP-based knowledge science, Ontology Engineering, Phonetics, phonology and morphology Pragmatics and discourse Semantics, syntax and lexicon Speech Recognition and Synthesis Tools and resource for NLP
- **iSAI-NLP Track 2: Data Analytic and Machine Learning**
Artificial Intelligence tools & Applications, Big Data Mining and Analytics, Machine Learning, Deep Learning, Neural Networks, Probabilistic Reasoning, Evolutionary Computing, Pattern recognition, Heuristic Planning Strategies and Tools Data Mining and Machine Learning Tools Reactive Distributed AI Hybrid Intelligent System, Intelligent Systems Architecture, Network Intelligence, Multimedia & Cognitive Informatics, Pervasive Computing and Ambient Intelligence Semantic Web Techniques and Technologies Web Intelligence Applications & Search Deep Learning, Business Intelligent
- **iSAI-NLP Track 3: Signal, Image and Speech Processing**
AI in image and speech processing, Computer vision and virtual reality, Content-based image retrieval, Content-based indexing, search and retrieval, Document recognition, Evolution and fuzzy computation, Hardware implementation for signal processing, Image and video coding and compression, Image filtering, restoration and enhancement, Image segmentation, Intelligent system and application, Multiple filtering and filter banks, Object and face detection, Pattern analysis and recognition, Super resolution imaging, Time-frequency signal analysis, Video analysis and event recognition, Video compression and streaming, Visualization, Web intelligence application and search
- **iSAI-NLP Track 4: Robotics, IoT and Embedded System**
Embedded Software and Compiler Health and medical wireless applications OS and middleware for mobile computing Parallel architectures and computational models Control algorithms and controls system Manufacturing robotics, Computational methodologies in robotics Human-Robot Interaction, Robotic cognition and emotion, Robotic perception and decision, Sensor integration, fusion, and perception, IoT Application and Services, IoT Mobility, localization, tracking & security
- **iSAI-NLP Track 5: Smart Industrial Technologies**
Smart Grid, Smart Material, Smart Home and Smart Building, Smart Transportation and Infrastructure, Smart City and Technology Application, Smart Energy and Efficient-Networks, Smart Information and Digital Business, Autonomous Vehicles, Energy Storage Technology, Data Analytic and Artificial intelligence for Industry Management, Condition Monitoring and Control for Intelligence Manufacturing, Smart Management for Industry, Learning Innovation for Industry, Basic Research for Smart Industry, Related Topic in Smart Technology and Engineering

Paper Submission

Proceedings will be published by SIIT, Thammasat university and NSTDA. The first page should include the paper title, the names and the complete mailing addresses of all authors, and the e-mail address of the corresponding author. Each paper should consist of up to 200-word abstract, up to 5 keywords. No page number should be printed. All the text, figures and reference must be between 4-6 double-column A4 pages with font size of 10 pts. Authors MUST use the AIoT 2020 manuscript submission guidelines for their initial submissions. All papers must be submitted electronically in PDF format only, using the conference management tool. The submitted papers must not be published or under consideration to be published elsewhere.

Special Issue

A number of selected papers will be considered to publish in a special issue of a journal.

More Information

Any question can be sent to process, e-mail: aiot@siit.tu.ac.th and/or isainlp.conf@gmail.com

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