2021 13th International Conference on Knowledge and Smart Technology (KST 2021)

Bangsaen, Chonburi, Thailand 21 – 24 January 2021



IEEE Catalog Number: CFP2126T-POD **ISBN:**

978-1-7281-7603-1

Copyright © 2021 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

IEEE Catalog Number:	
ISBN (Print-On-Demand):	
ISBN (Online):	
ISSN:	

CFP2126T-POD 978-1-7281-7603-1 978-1-7281-7602-4 2374-314X

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400 Fax: (845) 758-2633 E-mail: curran@proceedings.com Web: www.proceedings.com



Paper ID	Title	Page
Keynote	Latest advances in video coding technology for next	XV
	generation communications	
	by Seishi Takamura	
1570678168	An RSSI-based weighting with accelerometers for	1
	real-time indoor positioning	
	by Panuwat Danklang and Thanaluk Pranekunakol	
1570679741	K-mean Index Learning for Multimedia Datasets	6
	by Sarawut Markchit	
1570683742	Cloud-based Machine Learning Framework for	12
	Residential HVAC Control System	
	by Atthawut Issaraviriyakul, Wanchalerm Pora and	
	Napong Panitantum	
1570683985	Dual-step Nearest Neighborhood Prediction Method of	17
	Individual Childhood Growth	
	by Nida Chatwattanasiri, Napa Sae-bae and Supiya	
	Charoensiriwath	
1570684126	The Impulse Outlier Suppression Techniques Using	23
	ROAD and VME for Color Portraits	
	by Vorapoj Patanavijit, Darun Kesrarat and Kornkamol	
	Thakulsukanant	
1570684128		27
	Character-Level BERT	
	by Fuhong Tang and Kwankamol Nongpong	
1570684314	A Wireless Ground Reaction Force Measurement	33
	Device Using Force Sensor	
	by Burinthorn Suksupaet, Wongwit Senavongse,	
	Wacharee Ritthiwat and Direk Sueaseenak	
1570684420	Acquiring unobtrusive sleep-related signals through	38
	an ESP32-based data logger	
	by Daranee Srisuchinwong, Benyapa Sukhachewanon and	
	Theerasak Chanwimalueang	
1570685733	A Fast Attribute Reduction Algorithm of	43
	Neighborhood Rough Set	
	by Wenhua Li, Shuyin Xia and Zizhong Chen	
1570689003	Robust Null Broadening Beamforming Based on	49
	Adaptive Diagonal Loading for Look Direction	
	Mismatch	
	by Raungrong Suleesathira	

Paper ID	Title	Page
1570689318	Improved Step Detection with Smartphone Handheld	55
	Mode Recognition	
	by Warnnaphorn Suksuganjana, Seksan Laitrakun, Krit	
	Athikulwongse, Yuko Hara-Azumi and Somrudee	
	Deepaisarn	
1570692823	Improvement of Difficulty Parameter Equating base	61
	on Ability Parameter Distribution Adjustment	
	by Sarunya Deachnatee and Pokpong Songmuang	
1570690333	Implementing Predictive Model for Low Birth Weight	67
	in Afghanistan	
	by Abdullah Zahirzada and Kittichai Lavangnananda	
1570691063	Stacking Ensemble Deep Learning for Housing Price	73
	Prediction: a Case Study in Thailand	
	by Gan Srirutchataboon, Saranpat Prasertthum, Ekapol	
	Chuangsuwanich, Ploy N. Pratanwanich and Chotirat	
155050000	Ratanamahatana	70
1570692209	Proxy-Assisted Digital Signing Scheme for Mobile	78
	Cloud Computing	
1 5 5 0 6 0 0 0 0 1	by Somchart Fugkeaw and Pattavee Sanchol	0.4
1570692221	A study on training fine-tuning of convolutional neural	84
	networks	
1570(00000)	by Zhicheng Cai and Chenglei Peng	00
1570692331	A Shadow Detection Method for Retaining Key	90
	Objects in Complex Scenes	
1570602291	by Jingyi Cao, Chenglei Peng, Yang Li and Sidan Du	06
1570692381	Proposed Structural Validation-based Testing for Object-Oriented Programming	96
	by Chayanin Lumyong, Natthawut Tachasriburapha and	
	Taravichet Titijaroonroj	
1570692384	Detection of Unreliable Medical Articles on Thai	102
1370072304	Websites	102
	by Chotipong Saengkhunthod, Parischaya Kerdnoonwong	
	and Kanokwan Atchariyachanvanich	
1570692412	CPS-based automation model prediction for inspection	108
1370092112	by Tawatchai Perdpunya, Anuntasup Sukpradit, Orasa	100
	Limpaporn and Maleerat Maliyaem	
1570692457	Aspect and Opinion Extraction of Indonesian Beauty	113
	Product Reviews using Conditional Random Field	
	by Deffri Kun Indarta and Ade Romadhony	

Paper ID	Title	Page
1570692506	Image classification of sugar crystal with Deep	118
	learning	
	by Suriya Chayatummagoon and Prabhas	
	Chongstitvatana	
1570692509	Thai Sentiment Lexicon Construction	123
	by Jeerawat Intasorn, Sethavidh Gertphol and Usa	
	Sammapun	
1570692542	Design and Analysis of 5GHz Microwave Absorber	129
	by Varindra Kumar	
1570692634	Multiobjective Optimization Using Floser Pollination	135
	Algorithm for Storage Location Assignment at Lazada	
	Thailand Warehouse	
	by Chonnakarn Rungjaroenporn and Rachsuda	
1570692648	Setthawong Data Preparation for Reducing Computational Time	141
1370092048	with Transpose Stack Matrix for Action Recognition	141
	by Tanakon Sawanglok and Pokpong Songmuang	
1570692704	Learning to Drive with Deep Reinforcement Learning	147
1370072704	by Nut Chukamphaeng, Kitsuchart Pasupa, Martin	1-17
	Antenreiter and Peter Auer	
1570692727	Analysis of Dust Exposure Impact on Cardiovascular	153
	Diseases Risk Prediction in Bangkok, Thailand	
	by Jakkrit Sonsanit, Watcharin Sirigate, Kitsuchart	
	Pasupa, Varut Wiseschinda and Chaiyos Kunanusont	
1570692743	The Spatio-Temporal Distribution of Residential Real	159
	Estate Price Monitoring System	
	by Siripen Pongpaichet, Chitipat Thabsuwan and	
	Kanyalak Boonthanom	
1570692778	Pali Speech Synthesis using HMM	165
	by Kittikan Charoenrattana and Pusadee Seresangtakul	
1570692783	Automated Classification of Criminal and Violent	170
	Activities in Thailand from Online News Articles	
	by Tipajin Thaipisutikul, Suppawong Tuarob, Siripen	
	Pongpaichet, Amornsri Amornvatcharapong and Timothy Shih	
1570692791	Electronic Nose for Monitoring of Livestock Farm	176
	Odors (Poultry Farms)	
	by Wandee Aunsa-Ard, Theerapat Pobkrut, Nathamanee	
	Prombaingoen, Olarn Kijpreedaborisuthi and Teerakiat	
	Kerdcharoen	

Paper ID	Title	Page
1570692793	Employee Turnover Prediction: Employee event	181
	features on interpretable machine learning methods	
	by Thee Juvitayapun	
1570692798	Hate Speech Detection in Indonesian Twitter Texts	186
	using Bidirectional Gated Recurrent Unit	
	by Angela Marpaung, Rita Rismala and Hani Nurrahmi	
1570692809	Probation Status Prediction and Optimization for	191
	Undergraduate Engineering Students	
	by Sorawee Yanta, Sotarat Thammaboosadee, Pornchai	
	Chanyagorn and Rojjalak Chuckpaiwong	
1570692833	Enhanced pain detection and movement of motion	197
	with data augmentation based on deep learning	
	by Kornprom Pikulkaew and Varin Chouvatut	
1570692834	A Framework for Constructing Thai Sentiment	202
	Corpus using the Cosine Similarity Technique	
	by Nattawat Khamphakdee and Pusadee Seresangtakul	
1570692842	A Sleep Monitoring System Using Force Sensor and an	208
	Accelerometer Sensor for Screening Sleep Apnea	
	by Shongpun Lokavee, Visasiri Tantrakul, Janejira	
	Pengjiam and Teerakiat Kerdcharoen	
1570692868	Machine Learning for Explosive Detection from	214
	Electronic Nose Datasets	
	by Supawit Wongwattanaporn and Tanasanee	
	Phienthrakul	
1570692965	Improvement of Text-Independent Speaker	219
	Verification Using Gender-like Feature	
	by Pornprom Kiawjak, Somkiat Wangsiripitak and	
	Kitsuchart Pasupa	
1570692969	Probabilistic Analysis of Packet Losses in Dense LoRa Networks	225
	by Jirapon Sa-Ingthong, Anan Phonphoem, Aphirak	
	Jansang and Chaiporn Jaikaeo	
1570692971	AP2I: Adaptive PII Scanning and Consent Discovery	231
10,00,2,11	System	-01
	by Somchart Fugkeaw, Ananya Chaturasrivilai,	
	Pitchayapa Tasungnoen and Weerapat Techaudomtaworn	
1570692974	DBIM: An Efficient and Resilient PII Data Breach	237
· · · · · · · ·	Incident Management System	
	by Somchart Fugkeaw, Nichakorn Kuasomboon and	
	Pathitta Panakitkul	

Paper ID	Title	Page
1570692977	A Deep Learning Approach to Digital Filter	243
	Parameter Estimation Based on Amplitude Responses	
	by Poonna Yospanya, Sorawat Chivapreecha and	
	Thitaphan Jongsataporn	