

CONTENTS

INFORMATICS, COMPUTER ENGINEERING AND AUTOMATION

Akhmedov M.Sh., Fedorova N.V.

DYNAMIC LOAD BALANCING IN REAL TIME AND IMPLEMENTATION CHALLENGES
IN SMART GRID ENERGY NETWORKS.....1

Baglai O.P.

APPLICATION OF MODERN STATISTICAL METHODS IN WELDING
OF METAL STRUCTURES..... 9

Bilyi M.O., Krylov Ie.V.

MEDIAN CHANGE POINT DETECTION: A SEMANTIC TEXT SEGMENTATION METHOD
FOR INFORMATION SYSTEMS WITH VECTOR DATABASES.....17

Vakaliuk T.A., Fant M.O., Duniev S.S., Vlasenko O.V., Kolomiets V.V.

OVERVIEW OF METHODS FOR FORECASTING THE DYNAMICS OF DEMAND FOR GOODS...25

Volk M.O., Kovtun Ye.I.

MODELS OF DYNAMIC DISTRIBUTION OF COMPUTING TASKS
IN HETEROGENEOUS COMPUTER SYSTEMS.....32

Heiko O.O., Varava I.A., Pukha H. S., Dembitsky V.V., Vdovyna A.V.

SOFTWARE ARCHITECTURE FOR VALIDATING MATHEMATICAL MODELS.....38

Glukhova N.V.

SPECIFICS OF METHODS FOR ASSESSING THE ACCURACY OF PARAMETER
DETERMINATION WHEN IMPROVING COMPUTER-INTEGRATED TECHNOLOGY
FOR ANALYSIS OF GAS-DISCHARGE RADIATION IMAGES..... 44

Hromskiy O.O., Neroda S.I., Iatsyshyn A.V.

ANALYSIS OF ALGORITHMS OF ANALYTICAL WEB SYSTEMS FOR FORECASTING
THE INTEREXCHANGE VALUE OF DIGITAL CRYPTOASSETS..... 49

Denysenko I.V., Tereikovskiy I.A.

PARAMETERS FOR ASSESSING THE EFFICIENCY OF EMOTION RECOGNITION TOOLS
IN DISTANCE LEARNING SYSTEMS.....54

Didenko T.V., Kunhurtsev O.B.

METHOD FOR FORMING A QUERY TO SEARCH FOR AN INTERLOCUTOR IN DIGITAL
COMMUNICATION SYSTEMS CONSIDERING USERS' EMOTIONAL CHARACTERISTICS.....60

Yeremenko V.S., Monchenko O.V., Monchenko T.M.

INFORMATION REPRESENTATION OF AN OBJECT IN ENDOCRINOLOGICAL RESEARCH.....68

Zasadna Kh. O., Kotsun V. I.

KEY GENERATION IN THE RSA CRYPTOSYSTEM RSA AND THEIR APPLICATION..... 74

Zdorenko S.S., Cherepanska I.Yu.

MODEL PREDICTIVE CONTROL SYSTEM OF AIR TEMPERATURE IN BUILDINGS
WITH A MATHEMATICAL MODEL ADAPTATION MECHANISM..... 83

Zylevich M.O., Sorokin D.A.

SYSTEMATIZATION OF ERROR SOURCES IN GEOLOCATION USING LORA TECHNOLOGY...90

Ilutsa A.S.

WEB-ORIENTED SOFTWARE INTEGRATION OF PAAS AND SAAS TO INCREASE
THE PRODUCTIVITY OF RESEARCH AND EDUCATIONAL ACTIVITIES.....97

Iliash Yu.Yu., Horielov V.O., Antoniuk V.S.

CELLULAR AUTOMATION ALGORITHMS FOR LEVEL GENERATION IN COMPUTER GAMES.108

Inosov S.V., Gavryukov O.V., Bondarchuk O.V., Lutsenko V.Yu., Samoylenko M.I.

SYNTHESIS OF AN ALGORITHM OF PROGRAMMED CONTROL FOR A STRONGLY
NONLINEAR PLANT (BY THE EXAMPLE OF A CURING PIT).....114

Kandyba I.O. Honcharov D.S.

INTEGRATION OF DATA FROM THE GOOGLE FIT SERVICE INTO A HEALTH
MONITORING SYSTEM.....120

Karplevskiy B.V. TECHNOLOGIES FOR INTEGRATING VIRTUAL ENVIRONMENTS INTO REAL STAGE EQUIPMENT CONTROL SYSTEMS.....	126
Kozak R.R., Dudnyk O.O., Subin A.A. INFORMATION TECHNOLOGIES IN THE VISUALIZATION OF COMPLEX SCIENTIFIC DATA ..	135
Korablyov M.M., Dykyi S.A. DIAGNOSIS OF A CHILD'S EMOTIONAL STATE BASED ON THE ANALYSIS OF HIS DRAWINGS USING A NEURAL NETWORK APPROACH.....	142
Kuznietsov D.I., Muzyka I.O., Ivashchenko O.R. A MACHINE VISION SYSTEM FOR QUALITY-BASED GRAIN CLASSIFICATION USING MACHINE LEARNING.....	149
Kupin A.I., Dukhov D.Yu. RESEARCH INTO THE EFFICIENCY OF AUTOMATED SOFTWARE CODE GENERATION USING ARTIFICIAL INTELLIGENCE	157
Sukhovii S.I., Lakoza S.L., Matsiuk D.M. MODERN TRENDS ANALYSIS OF GAS-TURBINE ENGINE CONTROL SYSTEMS SOFTWARE IMPROVING	164
Lomovatskyi A.A., Basyuk T.M. METHODS FOR SENTIMENT ANALYSIS OF UKRAINIAN-LANGUAGE CONTENT: RULE-BASED, MACHINE LEARNING AND TRANSFORMER APPROACHES.....	173
Mykhalyuk A.P., Mirkevich R.M. ADVANCED CYBER-PHYSICAL RISK QUANTIFICATION: INTEGRATING SECURITY, CONTEXT AND OPERATIONAL CAPABILITIES IN IIOT AND AUTOMATION ENVIORNMENTS	181
Mikhav V.V., Meleshko Ye.V., Yakymenko M.S., Bosko V.V., Bereziuk I.A. MODELS OF DECENTRALIZED Q&A SYSTEMS IN PEER-TO-PEER COMPUTER NETWORKS..	189
Mohylnyi H.A., Smahina O.O., Pereiaslavska S.O. ANALYSIS OF THE IMPACT OF CONTAINERIZATION ON THE SOFTWARE DEVELOPMENT LIFE CYCLE (SDLC) IN THE DEVOPS PARADIGM.....	195
Nalotov D.R., Liashenko O.S. COMPLEX TECHNOLOGICAL OBJECT CONTROL MODEL BASED ON FUZZY LOGIC METHODS...	200
Nevliudov I.Sh., Novoselov S.P., Sychova O.V., Tesliuk S.I. DISTRIBUTED POSITIONING SYSTEM FOR MOBILE ROBOTS BASED ON ARUCO SENSOR NETWORK AND ROS ARCHITECTURE FOR CYBER-PHYSICAL MANUFACTURING.....	205
Oleshchenko L.M., Vovchenko D.S. SOFTWARE-BASED LOAD BALANCING METHOD FOR BIG DATA PROCESSING IN DISTRIBUTED INFORMATION SYSTEM.....	213
Parkhomenko Yu.M., Parkhomenko M.D., Matsui A.M., Bokii A.R., Komarov D.Yu. DETERMINATION OF THE INSTALLATION PLACE AND THE ACCURACY OF REGISTRATION BY THE GRAIN FLOW SENSOR FORMED BY A REEL SEEDER.....	220
Pelykh S.M., Lozhechnikov V.F., Ziierov O.R. ALGORITHM-ORIENTED DIGITAL SYSTEM FOR CONTROLLING THE MICROCLIMATE OF PRODUCTION PREMISES.....	227
Pisarenko J.V., Karmazin K.V. NETWORK DIGITAL TWIN AND FEDERATED MULTI-AGENT LEARNING FOR RESILIENT VIDEO STREAMING AND TELEMETRY MANAGEMENT IN SITUATION CENTERS.....	234
Piotrovskiy Ye.Ye. THE ROLE OF AUTOMATED FRONTEND-BACKEND SYNCHRONIZATION IN REDUCING DIGITAL PRODUCT TIME TO MARKET.....	241
Prokopovych-Tkachenko D.I., Torstensson O., Cherkaskyi D.O., Peremetchik D.O., Bert S.D. SOCIOTECHNICAL FACTORS IN THE EMERGENCE OF VULNERABILITIES IN NETWORK PROTOCOLS FOR SECURE DATA TRANSMISSION.....	249

Pupena O.M. USE OF AUTOMATIONML IN THE LIFECYCLE OF CONTROL SYSTEMS UNDER LIMITED RESOURCES.....	262
Pukhalevych A.V., Makarova L.M., Kovalenko V.V. A MAHEMATICAL MODEL FOR ASSESSING THE QUALITY OF OPEN SOURCE JAVA APPLICATIONS CREATED USING THE HIBERNATE FRAMEWORK.....	271
Rubel Yu.B., Hrytsiuk Yu.I. GENERATION OF SYNTHETIC BALLISTIC DATASET BASED ON NUMERICAL MODELLING AND DOMAIN RANDOMISATION FOR ARTILLERY FIRE CONTROL SYSTEM.....	278
Rudenko Yu.O., Ahadzhanova S.V., Vyunenko O. B., Sytnyk L.H., Ahadzhanov-Honsales K.H. EVALUATION OF THE EFFECTIVENESS OF MASTERING LOW-CODE TECHNOLOGIES IN THE TRAINING OF SPECIALISTS FOR BIG DATA ANALYTICS.....	289
Samoilov O.O., Doshchenko H.G. ARTIFICIAL INTELLIGENCE TECHNIQUES FOR SHIP ELECTRICAL SYSTEM CONDITION MONITORING.....	295
Ushakova I.O. MODERNIZATION OF THE BACKEND OF THE WEB APPLICATION BASED ON MICROSERVICE ARCHITECTURE.....	303
Yanko A.S., Goncharenko S.O. COMPARATIVE ANALYSIS OF ARCHITECTURAL AND CRYPTOGRAPHIC INNOVATIONS IN LORAWAN 1.0.4 AND 1.1 SPECIFICATIONS.....	311
INFORMATION ABOUT AUTHORS.....	318