

Content

Part I. Keynote Speakers Talks	20
Problems of Ontology Structure and Meaning Optimization and Theirs Solution Methods	21
<i>Vasyl Lytvyn, Oksana Oborska, Victoria Vysotska, Dmytro Dosyn, Andriy Demchuk, Yevhen Burov, Petro Kravets, Nazar Oleksiv</i>	
Intelligent System Development of Distant Matrix Analysis for Recruitment in the IT Sector	41
<i>Orest Kutjuk, Vasyl Lytvyn, Oksana Oborska, Victoria Vysotska, Dmytro Dosyn, Andriy Demchuk, Yevhen Burov, Petro Kravets</i>	
Part II. Main COLINS Conference tracks	79
Section I. Computational Linguistics	80
Algorithm of Text Recognizing in Ukrainian on the Video Mode	81
<i>Kateryna Tymoshenko, Victoria Vysotska</i>	
Optical Character Recognition	90
<i>Tetyana Zdebska, Vasyl Andrunyk, Roman Kempnyk, Vladyslav Chyhura</i>	
Natural Language Processing for CRM Friendly Interface	101
<i>Markiyan Voytiv</i>	
Elasticsearch as Search Engine for User System	144
<i>Taras Hnativ</i>	
Architectural Patterns in Front-End Development	125
<i>Oleh Martyn</i>	
Section II. Intelligent Systems	134
Information System for Investigation Solar Activity	135
<i>Danylo Ivantyshyn, Anatoliy Katrenko</i>	
The Object Recognition System in the Video Stream	141
<i>Illya Rudchick, Taras Basyuk</i>	
Automated Analysis and Detection of Optimal Number of Buses on the Route Depending on Hours and Type of Day	145

<i>Khrystyna Sarakhman</i>	
A Sensor of Solar Panels Imitation	149
<i>Bohdan Pliasun</i>	
Virtual Assistant for Monitoring Health Indicators	153
<i>Anna Khavrenko</i>	
Project of Hotel Information Management System	156
<i>Iлона Bochanova, Andrii Vasyliuk</i>	
Application of the Method of Hierarchy Analysis for Decision Making in Conditions of Definition	163
<i>Oksana Mahis</i>	
Development of Virtual Reality Platform for Teaching Children with Special Needs	170
<i>Mariia Horbova, Vasyl Andrunyk</i>	
Design of AR interface for Learning Students with Special Needs	178
<i>Kateryna Supruniuk, Vasyl Andrunyk</i>	
Development of Information System for Monitoring the Emotional State of a Student with Special Needs	184
<i>Olesia Yaloveha, Vasyl Andrunyk</i>	
Intellectual System for Rendering Transportation Services	191
<i>Bohdan Perkhun</i>	
System for Analysis of Determining the Level of Professional Training of the Student	200
<i>Tetyana Zdebska, Vasyl Andrunyk, Roman Kempnyk, Vladyslav Chyhura</i>	
Analytical Service for Choosing a Medical Drug	208
<i>Kateryna Kleban, Vasyl Andrunyk, Roman Kempnyk, Vladyslav Chyhura</i>	
Section III. Student Section	222
On the Problem of Automatic Transformation of the Sentence	223
<i>Tetiana Bratus, Julia Tyshchuk</i>	

To the Problem of Creating Software to Determine the Level of Fluency of German	225
<i>Yuliia Chervatiuk, Natalia Borysova, Karina Melnyk</i>	
State Estimation of Forest Condition in the Event of Fire, Based on Satellite Image Processing	228
<i>Oleksandr Shepeliev, Mariia Bilova</i>	
Construction and Analysis of Berber Text Corpus	230
<i>Khayi Zayd, Olena Orobinska</i>	
Noun Inflectional System of Interslavic Language	232
<i>Alona Kupchenko, Yevhen Kupriianov</i>	
Creating a Neural Network for Isolated Words Recognition	234
<i>Diana Litvichenko, Zoia Kochueva</i>	
Using a Distributional Semantic Model for Collocation Identification	236
<i>Anna Mosinyan, Svitlana Petrasova</i>	
Semantic Similarity Detection in a Single Text	238
<i>Anna Polityuk, Olena Orobinska</i>	
Using NLP Python Tools in Methods of Content Analysis	240
<i>Maria Razno, Nina Khairova</i>	
The Formation of Ukrainian Terminological Lexicon in the Sphere of Physical Research	243
<i>Darina Rozhko, Natalia Sharonova</i>	
An Overview of Existing Automated Methods Definition of the Author of the Written Text Identification Characteristics	245
<i>Yuliia Sliusarieva, Natalia Borysova, Karina Melnyk</i>	
The Relevance of Using Hidden Markov Chains in Solving the Problem of Removing Homonymy	248
<i>Alona Zhernovnikova, Zoia Kochueva</i>	
Handwriting Recognition Methods and Approaches	251
<i>Yevhen Bodnia, Mariia Kozulia</i>	

Information System of Online Pet Shelter	254
<i>Anastasiya Lelykova, Andrii Vasyliuk</i>	
Intelligent Decision Support Services Gas	258
<i>Artur Ben, Yevhen Burov, Iryna Zavushchak</i>	
Electronic Portfolio	260
<i>Yuriy Butsa, Tetiana Shestakevych, Zoriana Rybchak, Olga Makar</i>	
Intelligent System for the Sportsmen Preparation Mode Formation	262
<i>Yevhen Vavrykiv, Yevhen Burov, Iryna Zavushchak</i>	
Information System of Thematic Apperceptive Testing	264
<i>Victoria Vasyliuk, Tetiana Shestakevych</i>	
The Information Systems Project of Languages Foreign (Optional) for Students	266
<i>Khrystyna Velychko, Tetiana Shestakevych</i>	
The Dental Clinic Computerization	268
<i>Roksolana Havryliv, Nataliia Kunanets</i>	
The Project Management Information System in Linux	270
<i>Oleksa Hud, Oleh Veres</i>	
Information Technology for Data Selection in Natural Language	274
<i>Serhiy Dyuh, Oleh Veres</i>	
Intellectual System of Management of the Dealer's Network of Ecological Vehicle Transport	280
<i>Andriy Dyachuk, Andriy Berko, Yurii Matseliukh</i>	
The System of Support of Decision-Making Forming Individual Educational Plans	281
<i>Roman Zhydyk, YaroslavLis, Zoriana Rybchak, Olga Makar</i>	
The Design of an Information System for Tracking the Internal Functioning of the Educational Process	283
<i>Olena Zhuravel, Oleh Veres</i>	
Decision Support System for Verification of Web	286

Interfaces

Taras Zaluzhnyi, Taras Basyuk, Kateryna Brylinska

Semantically Similar Sentences Identification and Generating Methods 291

Petro Zdebskyi, Roman Kempnyk, Vladyslav Chyhura

Intelligent Decision Support of Making Decisions in Ophthalmology 294

Roman Ivaniv, Anatoliy Katrenko, Tetiana Yavorska

Information System for Forecasting Basketball Match 297

Yelyzaveta Klynchyk, Andrii Khudyi, Zoriana Rybchak, Iryna Makar

Intelligent Decision Support in Situations of Conflict 299

Oleksandr Kondratenko, Anatoliy Katrenko

Intellectual Information System for Voice Control of Computer 301

Bohdan Kopach, Taras Basyuk, Eduard Burmai

Intelligent System for the Choice of Leisure 303

Softya Kopot, Yuriy Ryshkovets, Eduard Burmai

Customized Selection of Cosmetic Products 305

Iryna Krot, Tetiana Shestakevych

Process for Forming List of Songs Under User's Needs 307

Roman Kubik, Roman Kempnyk, Vladyslav Chyhura

Creation of the Blood Donation Recommendation System 309

Oksana-Tereza Kunanets, Andrii Vasyliuk

The Information System Project is the Organization of International Passenger Transportation 313

Oles-Yuriy Kurilyak, Yaroslav Kis, Yurii Matseliukh

Intelligent Health Care Information System 315

Ruslan Lopotyak, Yevgen Burov, Iryna Makar

Heart Disease Monitoring System Built on the Internet of Things 319

Oleksandr Lutyuk, Taras Basyuk, Tetiana Yavorska

The Formation of Symptomatic Medicine Recommendations on the Basis of ML Technology 323

Stepan Makara, Roman Kempnyk, Vladyslav Chyhura

Intellectual System of Analysis and Forecasting of Road Condition 327

Petro Malesh, Vasyl Lytvyn, Zoriana Rybchak

Organization of the Bookchapter Process 330

Taras Malynowskyi, Andriy Demchuk, Kateryna Brylinska

Intellectual System for Promoting Online Resources 333

Andriy Malytskyi, Yaroslav Kis, Iryna Zavushchak

Intellectual Customer Loyalty System of Shopping Network 337

Dmytro Martyanov, Andriy Berko, Nazar Oleksiv

Analysis of Game Process Information Flows 341

Nataliya Mykytin, Oleksandr Lozytskyi, Nazar Oleksiv

Intelligent System for Personalized Audio Content Selection 344

Andriana Moroz, Andrii Vasyliuk, Olga Makar

Online Reservation System Project 347

Serhiy Natalchuk, Yaroslav Kis, Kateryna Brylinska

Intelligent Climate Control System in Office Space 349

Oleksiy Nyzhnyk, Yevhen Burov, Iryna Zavushchak

Information System for the Provision of Motor Transport Services 352

Bohdan Perkhun, Yaroslav Kis, Zoriana Rybchak, Iryna Makar, Yurii Matseliukh

Intelligent Computer Accounting System 355

Volodymyr Poronyuk, Yaroslav Kis, Hanna Kravchenko

Information System for Processing of Job Search Results 358

Viktoriya Puzankova, Oleh Veres

Intellectual System for Recommending Visits to the Sights of Halychyna	360
<i>Dmytro Ratal'skyi, Mykola Prodaniuk, Kateryna Brylinska</i>	
Intellectual System of Recommendation on the Selection of the Food Object	362
<i>Pavlo Roshko, Mykola Prodaniuk, Nazar Oleksiv</i>	
Intellectually System of Notification	364
<i>Yuliy Spivakov, Andrii Khudyi, Nazar Oleksiv</i>	
Intellectual System for Analytical Data of Patients	366
<i>Roman Supyk, Yaroslav Kis, Taras Batiuk</i>	
The Dynamics of Taking Over the First Mobile Devices Among Young People and Relating to Success in the Child's Educational Process	371
<i>Taras Susulovskyi, Sergiy Shcherbak, Hanna Kravchenko</i>	
Intellectual System Backup and Encrypt Information	375
<i>Bohdan Tataryn, Taras Basyuk, Taras Batiuk</i>	
Intelligent System Prediction of Personal Expenses Users Based on Machine Learning Technology	376
<i>Mykola Khodan, Roman Kempnyk, Vladyslav Chyhura</i>	
Model of Information System Aimed at Increasing Social Activity	381
<i>Mariyana Chenka, Tetiana Shestakevych</i>	
Information System for Online Monitoring Vaccinated Against a Specific Disease	384
<i>Diana Shostal, Andrii Vasyliuk</i>	
Intellectual System for Learning Foreign Language	388
<i>Maksym Yavir, Roman Kempnyk, Vladyslav Chyhura</i>	
Software for Projecting Bitcoin Course by Artificial Neural Network Methods	390
<i>Nataliya Stepura, Andrii Vasyliuk, Iryna Makar</i>	
The Project of Information System on Bicycle Rental	392
<i>Vadym Denisevych, Yaroslav Kis, Yurii Matseliukh</i>	

The Project of Information System of Hiking Routes	395
<i>Lev Deineko, Khrytyna Mykich, Olga Makar</i>	
Online Transfer Status Information System in Sports	398
<i>Yaroslav Michalko, Khrystyna Mykich, Mariia Sadova</i>	
Intellectual System for Providing Lviv Tourist Information About UNESCO Buildings	400
<i>Diana-Yuliya Nagorna, Mykola Prodaniuk, Taras Batiuk</i>	
Information System for Support of Family Physician Work	403
<i>Orest Zhmurkevych</i>	
Geoinformation System for the Organization of Recreational Fishing	408
<i>Nazar Bilinets</i>	
Using of Natural Language Processing in Chatbot	410
<i>Denys Boiko</i>	
The Information System Design for Flowers Boutique Activity	416
<i>Anna Voloshyn, Andrii Vasyliuk</i>	
System for the Analysis of a Customer Bank Transaction	419
<i>Taras Trush</i>	
Information System for Searching Music Tracks on the Internet	422
<i>Nazarii Kovalko</i>	
Object Detection and Descriptive Analytics	425
<i>Khrystyna Sarakhman, Roman Kempnyk, Vladyslav Chyhura</i>	
ChatBot using NLP	429
<i>Khrystyna Sarakhman, Roman Kempnyk, Vladyslav Chyhura</i>	