# Program at a Glance

## Day 0 – 6 October 2020, Tuesday

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00-18:00</td>
<td>Zoom setup and test connections</td>
</tr>
</tbody>
</table>

## Day 1 – 7 October 2020, Wednesday

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>09:30-10:00</td>
<td>Zoom connection</td>
</tr>
<tr>
<td>10:00-10:20</td>
<td>Opening ceremony</td>
</tr>
<tr>
<td>10:20-11:20</td>
<td>Keynote lecture by Prof. ISABEL TRANCOSO</td>
</tr>
<tr>
<td></td>
<td>“Profiling speech for clinical applications”</td>
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<tr>
<td>11:20-12:20</td>
<td>Keynote lecture by HUAWEI (Russian Research Center)</td>
</tr>
<tr>
<td>12:20-12:40</td>
<td>Short break</td>
</tr>
<tr>
<td>12:40-13:40</td>
<td>Keynote lecture by Dr. ILSHAT MAMAEV</td>
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<tr>
<td></td>
<td>“A concept for a human-robot collaboration workspace using proximity sensors”</td>
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<tr>
<td>13:40-15:00</td>
<td>Lunch break &amp; Online entertainment</td>
</tr>
<tr>
<td>15:00-17:00</td>
<td>SPECOM Session 1 (6 full presentations, 20 min)</td>
</tr>
<tr>
<td></td>
<td>Automatic Speech Recognition</td>
</tr>
<tr>
<td>17:00-17:20</td>
<td>Short break</td>
</tr>
<tr>
<td>17:20-18:20</td>
<td>SPECOM Session 2 (6 short presentations, 10 min)</td>
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<tr>
<td></td>
<td>Voice Biometrics</td>
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<tr>
<td></td>
<td>ICR Session 1 (6 full presentations, 20 min)</td>
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<tr>
<td></td>
<td>Robot Vision</td>
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<tr>
<td></td>
<td>ICR Session 2 (3 full presentations, 20 min)</td>
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<td></td>
<td>Cooperative Robots</td>
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## Day 2 – 8 October 2020, Thursday

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>09:30-10:00</td>
<td>Zoom connection</td>
</tr>
<tr>
<td>10:00-12:00</td>
<td>SPECOM Session 3 (6 full presentations, 20 min)</td>
</tr>
<tr>
<td></td>
<td>Computational Paralinguistics</td>
</tr>
<tr>
<td>12:00-12:20</td>
<td>Short break</td>
</tr>
<tr>
<td>12:20-13:50</td>
<td>SPECOM Session 4 (9 short presentations, 10 min)</td>
</tr>
<tr>
<td></td>
<td>Spoken Language Processing</td>
</tr>
<tr>
<td>13:50-15:00</td>
<td>Lunch break &amp; Online entertainment</td>
</tr>
<tr>
<td>15:00-17:00</td>
<td>SPECOM Session 5 (6 full presentations, 20 min)</td>
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<tr>
<td></td>
<td>Spoken Language Processing</td>
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<tr>
<td>17:00-17:20</td>
<td>Short break</td>
</tr>
<tr>
<td>17:20-18:40</td>
<td>SPECOM Session 6 (4 full presentations, 20 min)</td>
</tr>
<tr>
<td></td>
<td>Speech and Audio Signal Processing</td>
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<tr>
<td></td>
<td>ICR Session 3 (6 full presentations, 20 min)</td>
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<tr>
<td></td>
<td>Collaborative Robots</td>
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<tr>
<td></td>
<td>ICR Session 4 (9 short presentations, 10 min)</td>
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<tr>
<td></td>
<td>Robot Control Systems</td>
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<tr>
<td></td>
<td>ICR Session 5 (6 full presentations, 20 min)</td>
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<td></td>
<td>Robot Navigation</td>
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## Day 3 – 9 October 2020, Friday

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>09:30-10:00</td>
<td>Zoom connection</td>
</tr>
<tr>
<td>10:00-12:00</td>
<td>SPECOM Session 7 (6 full presentations, 20 min)</td>
</tr>
<tr>
<td></td>
<td>Speech and Language Resources</td>
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<tr>
<td>12:00-12:20</td>
<td>Short break</td>
</tr>
<tr>
<td>12:20-13:50</td>
<td>SPECOM Session 8 (9 short presentations, 10 min)</td>
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<tr>
<td></td>
<td>Speech and Language Resources</td>
</tr>
<tr>
<td>13:50-15:00</td>
<td>Lunch break &amp; Online entertainment</td>
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<tr>
<td>15:00-17:00</td>
<td>SPECOM Session 9 (6 full presentations, 20 min)</td>
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<tr>
<td></td>
<td>Natural Language Processing</td>
</tr>
<tr>
<td>17:00-17:20</td>
<td>Short break</td>
</tr>
<tr>
<td>17:20-18:30</td>
<td>SPECOM Session X (7 short presentations, 10 min)</td>
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<tr>
<td></td>
<td>Natural Language Processing</td>
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<tr>
<td>18:30-18:40</td>
<td>Closing ceremony</td>
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Detailed Scientific Program

22nd International Conference on Speech and Computer SPECOM 2020 Sessions

Day 1 – 7 October 2020, Wednesday

SPECOM Session 1 (6 full presentations, 20 min each) - Automatic Speech Recognition
7 October 2020, Wednesday, 15:00-17:00

#138 Ludwig Kürzinger, Dominik Winkelbauer, Lujun Li, Tobias Watzel and Gerhard Rigoll - CTC-Segmentation of Large Corpora for German End-to-End Speech Recognition
85 Tobias Watzel, Ludwig Kürzinger, Lujun Li and Gerhard Rigoll - Synchronized Forward-Backward Transformer for End-to-End Speech Recognition
125 Irina Kipyatkova and Nikita Markovnikov - Experimenting with Attention Mechanisms in Joint CTC-Attention Models for Russian Speech Recognition
53 Andrei Andrusenko, Aleksandr Laptev and Ivan Medennikov - Exploration of End-to-End ASR for OpenSTT – Russian Open Speech-to-Text Dataset
55 Petr Stanislav, Josef V. Psutka and Josef Psutka - Increasing the Accuracy of the ASR System by Prolonging Voiceless Phonemes in the Speech of Patients using the Electrolarynx
106 Ingo Siegert, Yamini Sinha, Oliver Jokisch and Andreas Wendemuth - Recognition Performance of Selected Speech Recognition APIs – A Longitudinal Study

SPECOM Session 2 (6 short presentations, 10 min each) - Voice Biometrics
7 October 2020, Wednesday, 17:20-18:20

40 Zbynek Zajic, Josef V. Psutka and Ludek Muller - Diarization based on Identification with x-vectors
45 Ivan Rakhtmanenko, Evgeny Kostyuchenko, Evgeny Choyznov, Lidiya Balatskaya and Alexander Shelupanov - Score Normalization of x-vector Speaker Verification System for Short-duration Speaker Verification Challenge
139 Maxim Markitantov - Transfer Learning in Speaker’s Age and Gender Recognition
79 Rajeev Rajan, Abhijith Girish, Adharsh Sabu and Akshay Prasannan Latha - Evaluation of Voice Mimicking using i-vector Framework
46 Rodmonga Potapova and Andrey Dzhunkovskiy - Preliminary Investigation of Potential Steganographic Container Localization

Day 2 – 8 October 2020, Thursday

SPECOM Session 3 (6 full presentations, 20 min) - Computational Paralinguistics
8 October 2020, Thursday, 10:00-12:00

118 Manon Macary, Martin Lebourdais, Marie Tahon, Yannick Estève and Anthony Rousseau - Multi-corpus Experiment on Continuous Speech Emotion Recognition: Convolution or Recurrence?
56 Siwei Wang, Catherine Soladié and Renaud Séguier - Learning an Unsupervised and Interpretable Representation of Emotion from Speech
66 Umut Avci - Speech Emotion Recognition using Spectrogram Patterns as Features
6 José Vicente Egas-López and Gábor Gosztolya - Predicting a Cold from Speech using Fisher Vectors; SVM and XGBoost as Classifiers
132 Pedro Alonso, Rajkumar Saini and György Kovács - Hate Speech Detection Using Transformer Ensembles on the HASOC Dataset
124 Anastasia Iskhakova, Daniyar Wolf and Roman Meshcheryakov - Automated Destructive Behavior State Detection on the 1D CNN-based Voice Analysis
**SPECOM Session 4 (9 short presentations, 10 min) - Spoken Language Processing**

8 October 2020, Thursday, 12:20-13:50

112 Meysam Shamsi, Nelly Barbot, Damien L olive and Jonathan Chevelu - Mixing Synthetic and Recorded Signals for Audio-book Generation
123 Daniel Tihelka, Zdenek Hanzlicek and Markéta Jůzová - Uncertainty of Phone Voicing and its Impact on Speech Synthesis
30 Jiří Přibil, Anna Příbílová and Jindřich Matoušek - Synthetic Speech Evaluation by Differential Maps in Pleasure-Arousal Space
60 Iustina Andronic, Ludwig Kürzinger, Edgar Ricardo Chavez Rosas, Gerhard Rigoll and Bernhard U. Seeber - MP3 Compression to Diminish Adversarial Noise in End-to-End Speech Recognition
114 Ludwig Kürzinger, Edgar Ricardo Chavez Rosas, Lujun Li, Tobias Watzel and Gerhard Rigoll - Audio Adversarial Examples for Robust Hybrid CTC/Attention Speech Recognition
95 Miroslav Hlaváč, Ivan Gruber, Miloš Železný and Alexey Karpov - Lipreading with LipsID
121 Pavel Skrelin, Uliana Kochetkova, Vera Evdokimova and Daria Novoselova - Can We Detect Irony in Speech Using Phonetic Characteristics Only? - Looking for a Methodology of Analysis
126 Maria Dayter and Elena Riekhakaynen - Automatic Prediction of Word form Reduction in Russian Spontaneous Speech
136 Ekaterina Razubaeva and Anton Stepikhov - Genuine Spontaneous vs Fake Spontaneous Speech: in Search of Distinction

**SPECOM Session 5 (6 full presentations, 20 min) - Spoken Language Processing**

8 October 2020, Thursday, 15:00-17:00

20 Lucy Skidmore and Alexander Gutkin - Does A Priori Phonological Knowledge Improve Cross-Lingual Robustness of Phonemic Contrasts?
29 Thilo Michael and Sebastian Möller - Interactivity-based Quality Prediction of Conversations with Transmission Delay
131 Paul Tardy, Louis de Seynes, François Hernandez, Vincent Nguyen, David Janiszek and Yannick Estève - Leverage Unlabeled Data for Abstractive Speech Summarization with Self-Supervised Learning and Back-Summarization
47 Oliver Niebuhr and Jana Neitsch - Digital Rhetoric 2.0: How to Train Charismatic Speaking with Speech-melody Visualization Software
41 Petr Cerva, Veronika Volna and Lenka Weingartova - Dealing with Newly Emerging OOVs in Broadcast Programs by Daily Updates of the Lexicon and Language Model
4 Pavel Kholiavin, Anna Mamushina, Daniil Kocharov and Tatiana Kachkovskai a - Automatic Detection of Backchannels in Russian Dialogue Speech

**SPECOM Session 6 (4 full short presentations, 20 min) - Speech and Audio Signal Processing**

8 October 2020, Thursday, 17:20-18:40

27 Sebastian Braun and Ivan Tashev - Data Augmentation and Loss Normalization for Deep Noise Suppression
133 Ryhor Vashkevich and Elias Azarov - Robust Noisy Speech Parameterization Using Convolutional Neural Networks
98 Sergei Astapov, Dmitriy Popov and Vladimir Kabarov - Directional Clustering with Polyharmonic Phase Estimation for Enhanced Speaker Localization
140 Tanvirul Alam and Akib Khan - Lightweight CNN for Robust Voice Activity Detection
Day 3 – 9 October 2020, Friday

SPECOM Session 7 (6 full presentations, 20 min) - Speech and Language Resources
9 October 2020, Friday, 10:00-12:00

120 Daniel Tihelka, Markéta Jůzová and Jakub Vít - Grappling with Web Technologies: the Problems of Remote Speech Recording
50 Dima Shulga, Vered Silber-Varod, Diamanta Benson Karai, Ofer Levi, Elad Vashdi and Anat Lerner - Toward Explainable Automatic Classification of Children’s Speech Disorders
59 Vass Verkhodanova, Dominika Trckova, Matt Coler and Wander Lowie - More than Words: Cross-Linguistic Exploration of Parkinson’s Disease Identification from Speech
162 Arif Sırrı Ozçelik and Tunga Güngör - Generating a Concept Relation Network for Turkish Based on ConceptNet Using Translational Methods
5 Valery Solovyev and Vladimir Ivanov - Automated Compilation of a Corpus-based Dictionary and Computing Concreteness Ratings of Russian

SPECOM Session 8 (9 short presentations, 10 min) - Speech and Language Resources
9 October 2020, Friday, 12:20-13:50

84 Dimitar Popov, Velka Popova, Krasimir Kordov and Stanimir Zhelezov - Bulgarian Associative Dictionaries in the LABLASS Web-based System
107 Jitka Veronkova and Tomáš Bořil - Phonological Length of L2 Czech Speakers’ Vowels in Ambiguous Contexts as Perceived by L1 Listeners
52 Tatiana Shevchenko and Tatiana Sokoreva - Cognitively Challenging: Language Shift and Speech Rate of Academic Bilinguals
21 Tatiana Shevchenko and Anastasia Gorbyleva - Temporal Concord in Speech Interaction: Overlaps and Interruptions in Spoken American English
137 Ghania Droua-Hamdani - Formant Frequency Analysis of MSA Vowels in Six Algerian Regions
99 Natalia Bogdanova-Beglarian, Olga Blinova, Tatiana Sherstinova, Daria Gorbunova, Kristina Zaides and Tatiana Popova - Pragmatic Markers in Dialogue and Monologue: Difficulties of Identification and Typical Formation Models
97 Evgeny Kazartsev, Arina Davydova and Tatiana Sherstinova - Rhythmic Structures of Russian Prose and Occasional iambs (a Diachronic Case Study)
14 Rodmonga Potapova and Vsevolod Potapov - Some Comparative Cognitive and Neurophysiological Reactions to Code-modified Internet Information
32 Rodmonga Potapova, Vsevolod Potapov, Nataliya Lebedeva, Ekaterina Karimova and Nikolay Bobrov - The Influence of Multimodal Polycode Internet Content on Human Brain Activity

SPECOM Session 9 (6 full presentations, 20 min) - Natural Language Processing
9 October 2020, Friday, 15:00-17:00

86 Denis Gordeev and Vsevolod Potapov - Toxicity in Texts and Images on the Internet
128 Olesia Makhnnytina, Anton Matveev, Darya Bogoradnikova, Inna Lizenova, Anna Maltseva and Natalia Shilkina - Detection of Toxic Language in Short Text Messages
161 Ilyos Rabbimov, Iosif Mporas, Vasiliki Simaki and Sami Kobilov - Investigating the Effect of Emoji in Opinion Classification of Uzbek Movie Review Comments
108 Zhandos Yessenbayev, Zhanibek Kozhirbayev and Aibek Makazhanov - KazNLP: a Pipeline for Automated Processing of Texts Written in Kazakh Language
135 Ivan Gruber, Pavel Ircing, Petr Neduchal, Marek Hrůz, Miroslav Hlaváč, Zbyněk Zajíc, Jan Svec and Martin Bulín - An Automated Pipeline for Robust Image Processing and Optical Character Recognition of Historical Documents

SPECOM Session X (7 short presentations, 10 min) - Natural Language Processing
9 October 2020, Friday, 17:20-18:30

13 Lukáš Bureš, Petr Neduchal and Luděk Müller - Automatic Information Extraction from Scanned Documents
9 Sergey Kuleshov, Alexandra Zaytseva and Konstantin Nenausnikov - Legal Tech: Documents' Validation Method Based on the Associative-Ontological Approach
111 Vladimir Zhebel, Denis Zubarev and Ilya Sochenkov - Different Approaches in Cross-Language Similar Documents Retrieval in the Legal Domain
54 Tatiana Litvinova - Stylometrics Features under Domain Shift: Do they Really “Context-independent”?
117 Polina Mikhailova - Graphic Markers of Irony and Sarcasm in Written Texts
23 Aleksandr Chernyaev, Alexey Spryiskov, Aleksandr Ivashko and Yuliya Bidulya - A Rumor Detection in Russian Tweets
102 Anastasia Dvoynikova, Oxana Verkholyak and Alexey Karpov - Emotion Recognition and Sentiment Analysis of Extemporaneous Speech Transcriptions in Russian
5th International Conference on Interactive Collaborative Robotics ICR 2020 Sessions

Day 1 – 7 October 2020, Wednesday

ICR Session 1 (6 full presentations, 20 min each) - Robot Vision
7 October 2020, Wednesday, 15:00-17:00

#93 Elvira Chebotareva, Ramil Safin, Kuon-Hsien Hsia, Alexander Carballo and Evgeni Magid - Person-Following Algorithm Based on Laser Range Finder and Monocular Camera Data Fusion for a Wheeled Autonomous Mobile Robot
31 Alexander Leipnitz, Tilo Strutz and Oliver Jokisch - Spatial Resolution-Independent CNN-based Person Detection in Agricultural Image Data
26 Vaclav Divis and Marek Hruz - Evaluation of Image Synthesis for Automotive Purposes
155 Gergely Sóti, Ilshat Mamaev and Björn Hein - A Modular Deep Learning Architecture for Anomaly Detection in HRI
33 Petr Neduchal, Ivan Gruber and Miloš Železný - Indoor vs. Outdoor Scene Classification for Mobile Robots
15 Igor Lebedev, Aleksei Erashov and Aleksandra Shabanova - Accurate Autonomous UAV Landing Using Vision-based Detection of ArUco-Marker

ICR Session 2 (3 full presentations, 20 min each) - Cooperative Robots
7 October 2020, Wednesday, 17:20-18:20

37 Evgeny Shandarov, Ilya Shabalin, Irina Prokazina, Vladimir Zhelonkin, Egor Polyntsev and Alina Sogomonyants - Humanoid Robot Soccer Player for RoboCup Junior League Competitions
134 Ivan Khokhlov, Vladimir Litvinenko, Ilya Ryakin and Konstantin Yakovlev - Planning to Score a Goal in Robotic Football with Heuristic Search
19 Tagir Muslimov and Rustem Munasypov - Cooperative Guidance for Waypoint Following of Distributed Multi-UAV System

Day 2 – 8 October 2020, Thursday

ICR Session 3 (6 full presentations, 20 min) - Collaborative Robots
8 October 2020, Thursday, 10:00-12:00

35 Dmitriy Dobrynin - Collision Detection in the Work of Collaborative Robots using an Intelligent System
100 Sergey Jatsun, Andrei Malchikov, Oksana Loktionova and Andrey Yatsun - Modeling of Human-Machine Interaction in an Industrial Exoskeleton Control System
51 Vladimir Filaretov, Anton Gubankov and Igor Gornostaev - Method of Formation of Reference Movement Speed of Working Tool of Multilink Manipulator
76 Rinat Galin, Roman Meshcheryakov and Saniya Kamesheva - Distributing Tasks in Multi-Agent Robotic System for Human-Robot Interaction Applications
92 Maksim Letenkov and Dmitriy Levonevskiy - Fast Face Features Extraction Based on Deep Neural Networks for Mobile Robotic Platforms
122 Ildar Kagirov, Dmitry Ryumin and Miloš Železný - Gesture-Based Intelligent User Interface for Control of an Assistive Mobile Information Robot
ICR Session 4 (9 short presentations, 10 min) Robot Control Systems
8 October 2020, Thursday, 12:20-13:50

88 Egor Aksamentov, Marina Astapova and Elizaveta Usina - Approach to Obstacle Localization for Robot Navigation in Agricultural Territories
129 Gleb Kiselev and Aleksandr Panov - Q-learning of Spatial Actions for Hierarchical Planner of Cognitive Agents
94 Eduard Melnik, Anna Klimenko and Irina Safronenkova - An Estimation of Distributed Algorithms of the Fault-Tolerant Management in the Robot Groups
83 Igor Kalyaev, Eduard Melnik and Anna Klimenko - Distributed Methods for Autonomous Robot Groups Fault-Tolerant Management
62 Viktor Semenov, Mikhail Sukhoparov and Ilya Lebedev - Approach to the State Analysis of Industry 4.0 Nodes based on Behavioral Patterns
74 Quyen Vu and Andrey Ronzhin - Algorithms of Posteriori Multi-Objective Optimization for Robotic Gripper Design
44 Vinh Nguyen, Anton Saveliev and Andrey Ronzhin - Mathematical Modelling of Control and Simultaneous Stabilization of 3-DOF Aerial Manipulation System
43 Eugene Larkin, Alexey Bogomolov and Maxim Antonov - Modeling of Increased Rigidity of Industrial Manipulator

ICR Session 5 (6 full presentations, 20 min) - Robot Navigation
8 October 2020, Thursday, 15:00-17:00

12 Elvira Chebotareva, Tatyana Tsoy, Bulat Abbyasov, Jamila Mustafina, Edgar A. Martinez-Garcia, Mikhail Svinin and Yang Bai - On the Problems of SLAM Simulation for Mobile Robots in the Arctic Conditions
87 Stepan Dergachev, Konstantin Yakovlev and Ryhor Prakapovich - A Combination of Theta*, ORCA and Push and Rotate for Multi-agent Navigation
17 Valeria Izhboldina, Elizaveta Usina and Irina Vatamaniuk - A*-based Path Planning Algorithm for Swarm Robotics
34 Eldar Mingachev, Roman Lavrenov, Tatyana Tsoy, Fumitoshi Matsuno, Mikhail Svinin, Jackrit Suthakorn and Evgeni Magid - Comparison of ROS-based Monocular Visual SLAM Methods: DSO, LDSO, ORB-SLAM2 & DynaSLAM
91 Konstantin Zakharov, Anton Saveliev and Oleg Sivchenko - Energy-efficient Path Planning Algorithm on Three-dimensional Large-scale Terrain Maps for Mobile Robots
90 Julia Rubtsova and Roman Iakovlev - Comparative Analysis of Approaches to Depth Map Generation for Robot Navigation