ANTON EGOROV

3D localization and mapping with DL implementation in Robotics

@ antegorov3@gmail.com

**** +79687953291

♀ Innopolis, Russia

https://antonskoltech.github.io/

• https://github.com/Antonskoltech

in https://www.linkedin.com/in/antegorov/

WORK EXPERIENCE & INTERNSHIPS

Research Engineer in SLAM team

Autonomous Transportation Systems Lab, Innopolis University

Mov 2020 - present

♀ Innopolis, Russia

- Robust LiDAR odometry algorithm to build 3D Map and localization of self-driving vehicle
- Teacher Assistant in Mobile Robotics and Autonomous Driving course (Fall 2020)

R&D Intern

SMART VIEWING

Marg 2020 - Nov 2020

♀ London, United Kingdom

Research topic:

Remote working on panoramic segmentation which combines semantics segmentation like tangent images with instance segmentation

R&D Intern in SLAM team (remote work from March) Robotics Institute, Carnegie Mellon University

Aug 2019 - Jul 2020

Pittsburgh, PA, USA

Research topics:

- SphereVLAD: Orientation-invariant 3D Place Recognition via Spherical Harmonics in 3D LIDAR-based SLAM algorithm
- SeqSphereVLAD: Sequence Matching Enhanced Orientation-invariant Place Recognition
- Fast Sequence-matching Enhanced orientation-invariant 3D Place Recognition

Adviser: Prof. Howie Choset

Summer Intern Student

Intelligent Space Robotic Lab, Skoltech

H Jun 2019 - Aug 2019

Moscow, Russia

LocoGear: Locomotion Analysis of Robotic Landing Gear for Multicopters

- Prepare reliable and stable hardware for legs and flying systems
- Set up and calibrate the robot
- Perform real-time simulation on a quadruped mobile robot

Electrical Engineer Team Leader for Eurobot competition Intelligent Space Robotics Lab, Skoltech

M Oct 2018 - Jun 2019

♀ Moscow, Russia

Development of electronics hardware system of two autonomous mobile robots-2nd place in the World robotic competitions "EurobotOPEN" Finals in France

- Designing a printed circuit board for control Maxon motors, dinamixlels, proximity sensors
- The Robot power supply system
- Communicate with on-board PC via UART interface using STM32

Adviser: Prof. Dzmitry Tsetserukou

EDUCATION

Master's in Information Systems and Technology

GPA: 5 out of 5

Space and Engineering Systems, Skoltech

Bachelor's in Electronics and nanoelectronics

GPA: 5 out of 5

Industrial electronics (Power electronics), Chuvash State University

PUBLICATIONS

- Peng Yin, Fuying Wang, Anton Egorov, Jiafan Hou, Ji Zhang, Howie Choset.
 "SeqSphereVLAD: Sequence Matching Enhanced Orientation-invariant Place Recognition," in Proc. International Conference on Intelligent Robots and Systems (IROS 2020), Las Vegas, NV, USA, 2020, has been accepted for publication.
 Accessed: Oct. 2020. [Online]. Available:
 - Accessed: Oct. 2020. [Online]. Available: https://ras.papercept.net/proceedings/IROS20/0583.pdf
- Grigoriy A. Yashin, Anton Egorov,
 Zhanibek Darush, Nikolay Zherdev, and
 Dzmitry Tsetserukou. "LocoGear: Lo comotion Analysis of Robotic Landing
 Gear for Multicopters,"in IEEE Journal on
 Miniaturization for Air and Space Systems
 (J-MASS), vol. 1, issue 2, pp.138-147.
 Accessed: Sep. 2020. [Online]. Available:
 doi: 10.1109/JMASS.2020.3015525,
 https://ieeexplore.ieee.org/
 document/9163320/authors#authors
- Peng Yin, Fuying Wang, Anton Egorov, Ji Zhang. "Fast Sequence-matching Enhanced orientation-invariant 3D Place Recognition," in Proc. IEEE Transactions on Industrial Electronics journal (TIE), 2020, under review.
- Peng Yin, Ziyue Feng, Lingyun Xu,
 Anton Egorov and Bing Li. "PSE-Match: A
 Viewpoint-free Place Recognition Method with Parallel Semantic Embedding," in
 Proc. IEEE Transactions on Intelligent Transportation Systems journal (T-ITS), 2020, under review.

Summer Intern Student in the Institute for Solar Fuels Helmholtz-Zentrum Berlin für Materialien und Energie (HZB)

₩ Jul 2018 - Sep 2018

P Berlin, Germany

Research topic:

• Optimizing buried junction cubic π -SnS photocathodes for water splitting (using AA-CVD, Magnetron sputtering, XRD, PEC and SEM analysis)-the goal is to fabricate a solar water splitting device that produces hydrogen

Adviser: Dr. Ibbi Ahmed

Electrical Engineer

Relematika

I Jul 2016 - Sep 2018

- ♥ Cheboksary, Russia
- Developing analog electronic microprocessor parts for protection of power lines
- Experience in research of the complete cycle of development of analog electronic devices for the electric power engineering industry
- Experience in research and development of output impulse formation circuits of definite duration of output signal for the calibration device and holding tests of the complex protection from arc faults
- Development of a device: « DC control relay» for complex protection of power lines
- Developing of a fiber-optic sensor for detecting a short circuit in substations

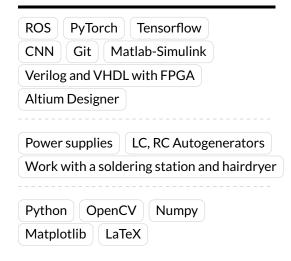
Electrical Engineer

Sirius Educational Center

Jun 2017 - Aug 2017

- Sochi, Russia
- Project development using 3D printers and lasers
- Developing of Power Supplies
- Ability to solder SMT PCB components using a microscope or reflow equipment
- Repairing PCBs and building cable assemblies with reliability and ruggedness in mind

SKILLS



LANGUAGES

Russian (native) English (C1 level in TOEFL ITP)



HONORS & AWARDS

- Skoltech's academic mobility grant (Russia.2019)
- 2nd place in the world robotic competitions "Eurobot OPEN" Finals (France, 2019) [Online]. Available: https://truestory. skoltech.ru/reset
- Winner of the National stage "Eurobot OPEN" (Russia, 2019)
- Best Design Award in Robotics course (Skoltech, 2019)
- Best Project Award in Control and Systems Engineering course (Skoltech, 2019)
- HZB 2018 Undergraduate Fellowship (Berlin, Germany) [Online]. Available: https://www. helmholtz-berlin.de/jobskarriere/ sommerstudenten/index_en.html#
- Participant of the 19th World Festival of Youth and Students (Russia, 2018)