Evgenii Safronov

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EDUCATION

Ph.D. student, Bioengineering and Robotics, IIT/UniGe November 2019 - now
Universitá degli studi di Genova (UniGe), Istituto Italiano di Tecnologia (IIT), Genova, Italy.
Supervisors: Dr. Lorenzo Natale and Dr. Michele Colledanchise, IIT

Master of Science, Space and Engineering Systems September 2017 - June 2019
Skolkovo Institute of Space and Technology (Skoltech), Moscow, Russia.
GPA: 5.0/5
Thesis project: Development of Mission Execution System for Unmanned Aircraft Systems
Supervisors: Dr. Ing. habil. Konstantin Kondak – DLR, Germany,
prof. Dzmitry Tsetserukou – Skoltech, Russia

Bachelor of Science, Applied Physics and Mathematics September 2013 - July 2017
Moscow Institute of Physics and Technology (MIPT), Dolgoprudnyy, Russia.
GPA: 4.92/5
Thesis project: Optimization of single and double superconducting qubit gates
Supervisors: Dr. Kirill Shulga, Gleb Fedorov – Russian Quantum Center, Russia

EXPERIENCE AND INTERNSHIPS

Sberbank Robotics Lab, internship, Moscow	July 2019 - October 2019
Master thesis internship, DLR/Elektra Solar GmbH, Munich	November 2018 - April 2019
Agrocompost LLC, Moscow	August 2018 - October 2018
Junior Researcher, Russian Quantum Center, Moscow	November 2016 - June 2017
Summer Internship, Helmholtz-Zentrum Berlin, Berlin	August 2016 - September 2016
Website development, dati.mipt.ru	October 2015 - June 2016
Tutor in physics, math, and programming, Moscow	September 2014 - May 2016

AWARDS AND SCHOLARSHIPS

2020 IROS Best RoboCup Paper Award Finalist	October 2020
Best Research Thesis - the best in the track, top 5% of University, Skoltech	June 2019
Best Academic Excellence - top 10% of University, Skoltech	June 2019
Eurobot 2019 Finals, Vice champions	June 2019
Skoltech's academic mobility grant	November 2018 - April 2019
Eurobot 2018 Finals, 5th place	May 2018
Skoltech president stipend	November 2017 - June 2018
Letter from MIPT president in recognition of public achievements	November 2017
International Olympiad in Theoretical Physics, Gold medal	2017
Best general physics exam performance	June 2016
MIPT 'Abramovka' competitive stipend for excellent study	September 2014 - June 2016
All-Russian School Olympiad: regional winner for astronomy, physics, math and programming.	2011 - 2013

SKILLS AND INTERESTS

Languages	C++, C, Python, JavaScript, CoffeeScript, Matlab, PHP
Other	Linux, ROS, PyTorch, OpenCV, SolidWorks, various ML framework
Interests	table tennis, snowboarding, cinematography

PUBLICATIONS

Task Planning with Belief Behavior Trees, **Best RoboCup Paper Award Finalist** October 2020
1st author, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2020

Compact Belief State Representation for Task Planning August 2020
1st author, 2020 IEEE 16th International Conference on Automation Science and Engineering

Asynchronous Behavior Trees with Memory aimed at Aerial Vehicles with Redundancy in Flight Controller November 2019
1st author, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2019

Node Templates to improve Reusability and Modularity of Behavior Trees November 2019
1st author, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2019, Behavior Trees for Robotics Systems Workshop

High-precision uav localization system for landing on a mobile collaborative robot based on an ir marker pattern recognition May 2019
2nd author, 2019 IEEE 89th Vehicular Technology Conference: VTC2019-Spring

PROJECTS

Mission Execution System for Unmanned Aircraft Systems November 2018 - May 2019
Master Thesis Project

- IEEE IROS 2019 conference contributed paper, 1st author
- High altitude pseudo satellites project in collaboration with Elektra Solar GmbH
- Theoretical rework of behavior tree (BT) concept, novel variable-based approach for BT, state synchronization for 3 redundant flight control computers
- C++ framework developed

UAV relative to ground mobile robot localization 2018, Summer
Industrial Immersion Project in Warevision, Skoltech startup

- IEEE VTC 2019 Spring conference contributed paper, 2nd author
- Localization system based on fusion of monocular camera and ultrasonic robot-to-UAV distance measurements.
- UAV had 2 concentric IR active markers - smaller for landing and take-off, bigger for high altitude flights.
- Choice of solution, Python/ROS framework development

Eurobot Open 2017-2019
2018: Team Captain, Software Development, 2019: Leading Mentor

- 2018-2019: From 5th place to vice-champions!
- 2 mobile collaborative robots from the scratch
- Linux, Python/ROS, Odroid XU4, Behavior trees, IQP/Dynamic programming, LIDAR, Computer Vision
- ROS package (clickable)
- Performance sample on YouTube (clickable)

Automated mission generation based on score rewards and tasks execution time 2017
- *Skoltech, Optimization Methods Course, Best project grade* *link to project (clickable)*

"Magic wand"-like gesture recognition based on IMU sensor data 2017
- *Skoltech, Introduction to Data Science Course, Best project grade* *link to project (clickable)*

Optimization of single and double superconducting qubit gates 2016-2017
MIPT, Russian Quantum Center, Bachelor Thesis Project

- Theoretical investigation and simulation of single and double qubit systems
- Python framework development