

# Evgenii Safronov

evgenii.safronov@iit.it

## EDUCATION

---

**Ph.D. student, Bioengineering and Robotics, IIT/UniGe** November 2019 - now  
Università 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

---

<b>Languages</b>	C++, C, Python, JavaScript, CoffeeScript, Matlab, PHP
<b>Other</b>	Linux, ROS, PyTorch, OpenCV, SolidWorks, various ML framework
<b>Interests</b>	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