Anton Egorov

URL: antonegorov.com
GitHub: https://github.com/Antonskoltech
LinkedIn: https://www.linkedin.com/in/antegorov/
Location: Moscow, Russia
Email: antegorov3@gmail.com
Mobile, Telegram: +79687953291, @nton_sk

Education

- **Master's with Honors in Information Systems and Technology (Robotics)** Moscow, Russia
  Skolkovo Institute of Science and Technology (Skoltech); GPA: 5.0/5.0, Academic Excellence (Top 2%)Sep. 2018 – Jun. 2020

- **Bachelor's with Honors in Electronics and Nanoelectronics (Power electronics)** Cheboksary, Russia
  Chuvash State University; GPA: 5.0 out of 5.0, Academic Excellence Award (Top 1%) Sep. 2014 – Jun. 2018

Skills

- **Languages**: Python (Numpy, Sklearn, Scipy, Pandas, PyTorch, Tensorflow, Keras, OpenCV, Matplotlib), C++ (Eigen, pcl), Matlab-Simulink, Verilog and VHDL with FPGA
- **Frameworks & Tools**: Git, Docker (bazel, Cyber RT), ROS, Spark, Hadoop, Airflow, Grafana, Kafka, LaTeX, Hugging Face libraries, high-performance computing clusters

Experience

- **WB Tech (Wildberries)** Moscow, Russia
  Lead Machine Learning Researcher(Core LLM (RND) team) *Mar. 2025 – present*
  Area: Conduct research on large language models (LLMs) and multimodal foundation models. In order to develop safer, more capable, and instruction-aligned AI assistants for specialized domains, design and execute experiments to advance model alignment, safety, and reasoning capabilitie.
  - Fine-tuned and aligned Qwen2 (0.5B, 7B, 14B),Qwen3(4b, 14b and 32b) and Qwen3-moe (Qwen3-30B-A3B, Qwen3-235B-A22B)models on Russian synthetic datasets for improved instruction-following and safety the company's AI assistant
  - Collected and prepossessed data from the company's AI assistant. Processed multi-source datasets (generated via Sonnet, DeepSeek, Gemini, GPT-4-turbo) to enhance model alignment
  - Evaluated model performance using code generation (HumanEval-RU, MBPP) and instruction-following benchmarks (MMLU, MMLU-RU, MMLU-Pro-RU). Developed a comprehensive dataset of 5,000+ annotated dialogues, labeled for various categories of inappropriate content
  - Investigated inference capabilities of text-to-image: Qwen-Image, Hunyuan Image, FLUX.1-dev/schnell models for educational purposes. Evaluated model performance across multiple benchmarks: T2I-CompBench++, CC-500, ABC-6k, Attn-Exct, HRS-comp, T2I-ReasonBench to assess composition, reasoning, and adherence to complex prompts
  - Deployed and customized SWE Agent code assistant across corporate infrastructure

- **Moscow Institute of Physics and Technology (MIPT)** Russia
  Senior Lecturer, Center for AI (educational and methodical innovatics lab) *Dec. 2025 – present*
  - Main lecturer at Machine Learning course for Surgut State University BSc students (Jan.2026)

- **Innopolis University** Innopolis, Russia
  Lead Computer Vision Researcher, Center for AI *Jan. 2023 – Mar.2025*
  Area: Conducted research in the area of Oil and Energy
  - Developed a 3D CV algorithms for Power Line Insulator/Vegetation Defects detection using aerial images
  - Developed a CV algorithms for Personal Protective Equipment (PPE) detection using aerial images
  - Developed a Simulator for UAV-Based Synthetic Aperture Radar (SAR) Path Planning and Navigation System

  Stack: Python (PyTorch, ...), Matlab, CNN, Docker

- **constructo.online (US)** remote from Innopolis, Russia
  Team Lead (part-time) *Jul. 2023 – Nov.2024*
  Area: Conducted research in the area of Scan to BIM - 3D building/2D Floorplan Reconstruction

- Led a ML team and developed a Scan to BIM 2D/3D Floorplan Reconstruction Computer Vision pipeline that includes data processing and annotation, semantic segmentation and wall, door, windows extraction, optimization

Stack: Python (PyTorch, ...), CNN, Docker

- **Oregon State University** remote from Innopolis, Russia
  Research Assistant at Deep Machine Vision group *Feb. 2022 – Jun. 2024*
  Area: Conducted research in the area of 2D/3D reconstructions
  - As a member of the development team for the 2D/3D Building Model Reconstruction challenge for the CVPR 2022, CVPR 2023, CVPR 2024 Workshops. 2nd, 3rd and 4th Workshop and Challenge on Computer Vision in the built environment for the design, construction, and operation of buildings
  - Focused on the research tasks of 2D floorplan reconstruction and 3D building model reconstruction and present appropriate interdisciplinary metrics for solving them.
  - Work with writing Hungarian matching, evaluation metrics (Endpoint, Surface, Volumetric) code for 3D Challenge

- **OZON TECH** Innopolis, Russia
  Middle Data Scientist (ML Matching team) *Mar. 2022 – Oct.2022*
  Area: Developing product matching service
  - Improved Matcher pipelines
  - Developed pipeline for ozon - comp Toloka control cases generation

  Stack: PyTorch, Spark, Hadoop, Airflow, Grafana, Kafka.

- Innopolis, Russia
  Middle Software Researcher (Localization and Mapping (SLAM) team), Self-Driving Group *Jun. 2021 – Mar. 2022*
  Area: Conducted research in the area of development of Software for Self-Driving Trucks.
  - Worked with fusion sensors techniques
  - Developed a module for LiDAR to LiDAR calibration
  - Worked on a 3D LiDAR map building
  - Analyzed data collected from sensor systems

  Stack: C++ (Eigen, pcl), git, Docker(bazel, Cyber RT), bash

- **Innopolis University** Innopolis, Russia
  Researcher in SLAM and Perception teams, Autonomous Transportation Systems Lab *Nov. 2020 – Jun. 2021*
  Area: Conducted research in the area of development of Software for Self-Driving cars.
  - Worked on a 3D LiDAR map building
  - Applied matching method for robust LiDAR odometry
  - Analyzed LiDAR data collected
  - Implemented an accurate Semantic Segmentation and 3D Object detection based on LiDAR Point Clouds
  - Worked on visual road signs tracking

  Stack: C++(Eigen, pcl), Python (PyTorch, ...), CNN, ROS, Docker, bash, Cyber RT

- **Huawei R&D** Moscow, Russia
  Junior Software Engineer at IRF team *Jul. 2020 – Aug. 2020*
  Topic: Research methods to improve the point cloud quality of automotive 3D LIDAR.
  - Worked on 3D LiDAR simulation

  Stack: Matlab

- **Skoltech** Moscow, Russia
  Graduate student in Intelligent Space Robotic Lab *Oct. 2018 – Jun. 2019*
  Topic: Development of electronics hardware system of two autonomous mobile robots.
  - Designed a printed circuit board for control Maxon motors, dinamixlels and proximity sensors
  - Prepared reliable the power supply system

  Adviser: Professor Dzmitry Tsetserukou

- **Relematika** — Cheboksary, Russia
  Electrical Engineer — *Jul. 2016 – Sep. 2018*
  - Developing analog electronic microprocessor parts for protection of power lines
  - Worked on 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
  - Ability to solder SMT PCB components using a microscope or reflow equipment
  - Repairing PCBs and building cable assemblies with reliability and ruggedness in mind

Internships

- **SMART VIEWING** — remote from Cheboksary, Russia
  R&D Intern — *Aug 2020 – Nov 2020*
  - Incorporating camera and scene geometry into deep learning models
  - Applying CNN on spherical image representation to get a panoramic semantic segmentation for 3D indoor reconstruction and modeling

  Stack: Python (PyTorch, ...), CNN.

- **The Robotics Institute, Carnegie Mellon University** — PA, USA
  Graduate Research Intern in Biorobotics Lab (SLAM team) — *Aug. 2019 – Jul. 2020*
  Topic: Investigating a robust an orientation-invariant 3D Place Recognition methods to improve large-scale a real-world robot 3D mapping
  - Developed a SphereVLAD, an orientation-invariant 3D Place Recognition (**77.91%** on Kitti, **89.28%** on Campus and **79.06%** on City datasets) method via Spherical Harmonics in 3D LIDAR-based SLAM algorithm
  - Designed a coarse-to-fine sequence matching module SeqSphereVLAD, to improve 3D place identification accuracy (**99.93%** on Kitti, **98.88%** on Campus and **99.04%** on City datasets)
  - Developed a Fast Sequence-matching Enhanced orientation-invariant 3D Place Recognition method
  - Designed a PSE-Match, a Viewpoint-free Place Recognition Method with Parallel Semantic Embedding

  In all experiments used average (%) of Average Recall @1 under 6 different orientation cases to evaluate place recognition accuracy

  Stack: Python (tensorflow, ...), SphericalCNN.

  Advisers: Professor Howie Choset, Postdoc.Peng Yin

- **Skoltech** — Moscow, Russia
  Summer Intern Student in Intelligent Space Robotic Lab — *Jun. 2019 – Jul. 2019*
  Topic: LocoGear: Locomotion Analysis of Robotic Landing Gear for Multicopters.
  - Prepared reliable and stable hardware (designed a PCB and power supply system) for legs and flying systems
  - Set up and calibrate the robot
  - Performed real-time simulation on a quadruped mobile robot
  - Presented a poster at annual Skoltech industry day 2019

  Stack: Matlab-Simulink, Altium Designer.

  Advisers: Professor Dzmitry Tsetserukou, Dr.Grigoriy Yashin

- **Helmholtz-Zentrum Berlin für Materialien und Energie (HZB)** — Berlin, Germany
  Undergraduate Summer Research Intern in the Institute for Solar Fuels — *Jul. 2018 – Sep. 2018*
  Topic: Fabricate a solar water splitting device that produces hydrogen.
  - Fabricated a series of 2% Zn doped π-SnS coated with different buffer layers consisting CdS, Zn(O,S), MoS_2, or Ag_5SnS_6 of which the former two were coated with a 50nm layer of TiO_2, since electrochemically unstable
  - Investigated the photoelectrochemical properties a series of π-SnS devices
  - Presented a poster to committee of HZB and wrote a scientific blog post as a result of work

  Stack: AA-CVD, Magnetron sputtering, XRD, PEC and SEM analysis.

  Adviser: Adviser: Dr. Ibbi Ahmed

Additional Education

- **Tinkoff Bank Machine Learning project school** — Sochi, Russia
  Machine Learning Research Student (Computer Vision team) — *Mar. 2021*
  Final Project: Development of a Deepfake service - animated image, generated from the source image/video according to the motion and facial expressions of a driving video of another person.
  - Applied the First Order Motion Model for Image Animation
  - Implemented Super-Resolution based on Efficient Sub-Pixel CNN

  Stack: Python (PyTorch, OpenCV, Numpy, Matplotlib), GANs

- **OzonMasters – Program in Data Science and Data Engineering** — Remote from Innopolis, Russia
  Data Science Student — *Sep. 2021 – Jun. 2022*
  Relevant Subjects: Machine learning, Numerical linear algebra, Algorithms, Python, Linux

- **DeepSchool – 3D Computer Vision course** — Remote from Innopolis, Russia
  Jul. 2023 – Oct. 2023
  Topics: Intro in SLAM/Sfm, Point Clouds, Rendering, NeRF, Blender, Gaussian Splatting

Teaching Experience

- **School 21 (Sber)**
  Expert
  - Online and Offline Data Analysis Course (Basic-level):
    1. 311 Rostelecom (company) Executives. Topic included: EDA, classical ML, DL, conducted projects consultancy:
    - 2024: Jun.24 (48 people offline in Moscow city), Jul.24 (73 people online), Sep.24 (68 people - online, 33 people offline in Novosibirsk city), Oct.24(48 people offline in Moscow city), Nov.25(41 people offline in in Moscow city;
    2. Heads of organizations:
    - 2024: Winter (28 people offline in Nizhny Novgorod city)
    - 2025: Spring (105 people offline in Yakutsk (The Republic of Sakha))
  - Delivered an Expert Lecture to the main cohort participants on an introduction to AI - Summer 2024, Samarkand, Uzbekistan
  - Delivered a Prompt Engineering Workshop for Rostelecom (company) Executives - Spring 2024, Yoshkar-Ola, Russia

- **Innopolis University**
  Expert
  - Offline Artificial Intelligence Technologies Course (Basic-level)- Tatneft (company) Executives. Topic included: classical ML, DL, conducted projects consultancy, Prompt Engineering Workshop
    - Nov.2024 (22 people in Almetyevsk city, Russia)

- **Standard Data** — Russia
  Instructor
  Conducted teaching for Sber University (443 students)
  - Data Science program(Winter, Spring 2023) (Advanced-level)- two cohorts of 27 students each, topic included: classical ML, DL, conducted project/HW consultancy
  - Data analysis for project managers (Summer 2023) - (Basic-level) - 55 students, topic included: Python and Algorithms, Math, Introduction to Primary Data Analysis
  - Winter 2024 digital school - 60 university and college teachers, conducted practical training: Primary Data Analysis, classical ML, DL
  - Summer 2024 digital school - two cohorts of 50 university and college teachers each, conducted a practical training: Primary Data Analysis, classical ML, DL
  - Business with AI (summer 2025) - lead a project track for five groups of Russian companies executives
  - Summer 2025 digital school - three cohorts of 50 university and college teachers each, conducted a practical training: AI agents, classical ML
  - Product and Business Fundamentals for Data Professionals (fall 2025) - 24 students (Data Scientists from industry), topic included: Business and ML metrics, Ethics, compliance, and interpretability of models, conducted project consultancy

- **Innopolis University** Innopolis, Russia
  Teaching assistantship at Mobile Robotics and Autonomous Driving *Fall 2020*
  - Taught and prepared homework assignments for students **(9 senior students)**
  - Topic included: particle filter, linear and non-linear Kalman filters
  - Conducted course's final examination

- **Innopolis University** Innopolis, Russia
  Teaching assistantship at Introduction to Artificial Intelligence *Spring 2021*
  - Taught and prepared homework assignments for students **(50 sophomore students)**
  - Topic included: Searching and Optimization, Tree Searching and logic, including basics of PROLOG as a language for answering such problems, Evolutionary Algorithms

Publications

Google Scholar Citations=114, h-index=4; My Citations Homepage

Journals

- 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**)*, 2021. Accessed: Feb. 2021. [Online]. Available: doi: 10.1109/TIE.2021.3057025, https://ieeexplore.ieee.org/abstract/document/9351776
- 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**)*, 2021. Accessed: Aug. 2021. [Online]. Available: doi: 10.1109/TITS.2021.3102429, https://ieeexplore.ieee.org/abstract/document/9523568
- Grigoriy A. Yashin, **Anton Egorov**, Zhanibek Darush, Nikolay Zherdev, and Dzmitry Tsetserukou. "LocoGear: Locomotion 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

Conferences

- 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**)*, Las Vegas, NV, USA, 2020. Accessed: Oct. 2020. [Online]. Available: doi: 10.1109/IROS45743.2020.9341727 https://ieeexplore.ieee.org/document/9341727?denied=

Workshops and Hackathons

- Co-organizer, as a Part of Development Team of 2nd, 3rd and 4th Workshop and Challenge on Computer vision in the build environment for the design, construction, and operation of buildings segmentations. Held in conjunction with the *IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2022, 2023, 2024*, New Orleans, Louisiana, USA, June 2022, Vancouver, Canada, June 2023, Seattle, WA, US
- As the Lead Judge and Expert at the International AI Energy Hackathon, *Power Line Security Zone Vegetation Detection*. I oversaw the competition on kaggle focused on developing an AI algorithm to detect vegetation in power line security zones using point cloud data. The algorithm must also accurately classify power lines. I facilitated the assessment process. Russia, 2024.
- Expert at the International ADMET Hackathon, *Prediction of ADMET properties of molecules for drug development*. The task is to develop classification/regression models based on the endpoint, for validation on an independent dataset on the server. Russia, 2024.
- As the Lead Judge and Expert at the International AI Energy Hackathon, *Disc-type glass insulators absence detection*. I oversaw the competition on kaggle focused on detecting the absence of disc-type glass insulators. 25 teams representing Indonesia, Israel, the UAE, Syria, Pakistan, and Russia participated in developing ML/DL algorithms for analyzing RGB images of these insulators along power lines, aiming to identify defects. I facilitated the assessment process and the winning teams were awarded a total prize pool of 700,000 rubles. Russia, 2023.

Membership in Associations

- European Association for Theoretical Computer Science (EATCS)
- ACM SIGACT - Association for Computing Machinery Special Interest Group on Algorithms & Computation Theory

Honors & Awards

- Participant of the **World Youth Festival Assembly** (Russia, 2025)
- Participant in Principal Engineer Intensive Program organized by Tatneft company and Pish ITMO (Russia, 2024)
- Participant of the **World Youth Festival** (Russia, 2024)
- Best Project Award in **Tinkoff Bank** ML project school, (Russia, 2021)
- Skoltech's academic mobility scholarship (Russia, 2019)
- 2nd place in the **world robotic competition** "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)
- Scholarship for Master's in Robotics at **Skoltech**, Professor Dzmitry Tsetserukou (Russia, 2018)
- **HZB** 2018 Undergraduate Fellowship, Dr. Ibbi Ahmed (Berlin, Germany)
- Participant of the 19th **World Festival** of Youth and Students (Russia, 2018)

Language Fluency

- Russian(native), English(fluent – TOEFL ITP)