



Anton Gnatenko

Date of birth: 18 May 1996 | **Gender:** Male | agnatenko@unibz.it |
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EDUCATION AND TRAINING

2021 – CURRENT – Piazza Domenicani 3, Bolzano, Italy

PHD PROGRAMME IN COMPUTER SCIENCE – Free University of Bozen-Bolzano

Fields of Interest: Logic, Reasoning, Algorithms and Complexity

www.unibz.it

2019 – 2021 – Moscow, Russia

MASTER OF APPLIED MATHEMATICS AND INFORMATICS – HSE University

Supervisor: professor Vladimir Zakharov

Thesis: Modeling, specification and verification of reactive information processing systems

with Honours | ECTS | 120 | <https://www.hse.ru/en/>

2014 – 2019 – Moscow, Russia

BACHELOR OF APPLIED MATHEMATICS AND COMPUTER SCIENCE – Moscow State University

Supervisor: professor Vladimir Zakharov

Thesis: Verification of finite state transducers using temporal logics

with Honours | ECTS | 240 | <https://www.msu.ru/en/>

LANGUAGE SKILLS

Mother tongue(s): **RUSSIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH (IELTS BAND SCORE 8)	C1	C1	C1	C1	C1
ITALIAN	A2	A2	A2	A2	A2
C++		B2			B2
PYTHON		A2			A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● WORK EXPERIENCE

2019 – 2021 – Moscow, Russia

LECTURER – HSE UNIVERSITY

Teaching undergraduate courses in discrete mathematics, mathematical logic and computability (problem-solving sessions).

Teaching an undergraduate elective course in complexity of computation (lectures, problem-solving sessions, development of course materials)

Education | <https://cs.hse.ru/en/big-data/>

2019 – 2021 – Moscow, Russia

RESEARCH ASSISTANT – HSE UNIVERSITY

Conducting research in the international laboratory of theoretical computer science

Professional, scientific and technical activities | <https://cs.hse.ru/en/big-data/tcs-lab/>

2017 – 2018 – Moscow, Russia

TEACHER – STATE SCHOOL 1028

Teaching elective courses in school-level combinatorics, logic and probability theory

Education

● PUBLICATIONS

On the Model Checking Problem for Some Extension of CTL*

Gnatenko A. R., Zakharov V. A.

<http://dx.doi.org/10.3103/S0146411621070051> – 2021

Automatic Control and Computer Sciences (Springer), volume 55, pages 776-785.

On the Expressive Power of Some Extensions of Linear Temporal Logic

Gnatenko A. R., Zakharov V. A.

<http://dx.doi.org/10.3103/S014641161907006X> – 2019

Automatic Control and Computer Sciences (Springer), volume 53, pages 663-675.

On the Model Checking of Finite State Transducers over Semigroups

Gnatenko A. R., Zakharov V. A.

[https://doi.org/10.15514/ISPRAS-2018-30\(3\)-21](https://doi.org/10.15514/ISPRAS-2018-30(3)-21) – 2018

Proceedings of the Institute for System Programming of the RAS (Proceedings of ISP RAS), volume 30, pages 303-324.

● CONFERENCES AND SEMINARS

3 NOV 2020 – 4 NOV 2020 – XI Workshop Program Semantics, Specification and Verification: Theory and Applications (Russia)

Using an Extension of CTL* for Specification and Verification of Sequential Reactive Systems

Gnatenko A. R., Zakharov V. A.

<https://persons.iis.nsk.su/en/pssv2020>

5 AUG 2019 – 16 AUG 2019 – 31st European Summer School in Logic, Language and Information. Student Session (Latvia)

On the Complexity of Model Checking Problem for Finite State Transducers over Free Semigroups

Gnatenko A. R.

<http://esslli2019.folli.info/programme/student-session/>

21 JUN 2018 – 22 JUN 2018 – IXth Workshop Program Semantics, Specification and Verification: Theory and Applications (Russia)

On the Expressive Power of Some Extensions of Linear Temporal Logic

Gnatenko A. R., Zakharov V. A.

<https://persons.iis.nsk.su/en/pssv2018>

● PROJECTS

2018 – 2020

Application of Program Schemata Theory and Automata Theory to Verification and Optimization of Programs

https://www.rfbr.ru/rffi/portal/project_search/o_2070846

The aim of the project was to study and find solutions to a series of problems related to two fundamental problems of system programming - program verification and program optimization. The research was carried out on a variety of computational models used as formal models of computer systems - program schemes and automata of various types.

I was engaged in development of model checking algorithms for sequential reactive programs modelled by finite transducers against parameterized variants of temporal logics.

Results: a complete solution of the satisfiability and model checking problems for a parameterized temporal logic called Reg-LTL was obtained. Namely, poly-space algorithms were developed and their correctness was proved. Both problems were shown to be PSpace-complete.

The link provided leads to the page of Russian Foundation for Basic Research with a brief description of the project (in Russian).

● STUDENT SCHOOLS

FEB 2019

Winter School of the Faculty of Computer Science

Higher School of Economics, Moscow

AUG 2019

31st European Summer School in Logic, Language and Information

University of Latvia, Riga

<https://esslli2019.folli.info/>

FEB 2018

"Absolute Future" - Winter School in Physics and Mathematics

Moscow Institute of Physics and Technology

● **SCHOLARSHIPS**

2020 – 2021

Scholarship named after Ilya Segalovich

The Ilya Segalovich Scholarship was established to support computer science students engaged in information technology at the Higher School of Economics. The scholarship rewards achievements in academics and research. The scholarship committee includes faculty staff members and lead developers from Yandex.

<https://yandex.com/scholarships/students>