Anton Gnatenko

Date of birth: 18 May 1996 | **Nationality:** Russian | **Email address:** agnatenko@unibz.it | **Skype:** live:gnatenko.cmc | **Address:** Bolzano, Italy (Work)

EDUCATION AND TRAINING

2020 – CURRENT Bolzano, Italy

PHD PROGRAMME IN COMPUTER SCIENCE Free University of Bozen-Bolzano

Areas of interest: logic, automated reasoning, algorithms and complexity

Address Piazza Domenicani 3, 39100, Bolzano, Italy | **Website** www.unibz.it | **Field of study** Computer Science

2018 – 2021 Moscow, Russia

MASTER OF APPLIED MATHEMATICS AND INFORMATICS HSE University

Supervisor: professor Vladimir Zakharov

Website https://www.hse.ru/en/ | **Type of credits** ECTS | **Number of credits** 120 |

Thesis Modeling, specification and verification of reactive information processing systems

2013 – 2019 Moscow, Russia

BACHELOR OF APPLIED MATHEMATICS AND COMPUTER SCIENCE Lomonosov Moscow State University

Supervisor: professor Vladimir Zakharov

Website https://www.msu.ru/en/ | **Final grade** with Honours | **Type of credits** ECTS | **Number of credits** 240 |

Thesis Verification of finite state transducers using temporal logics

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	B1	B1	B1	B1	B1
C++		B2			B2
PYTHON		A2			A2

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

WORK EXPERIENCE

2018 – 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)

Business or Sector Education | **Website** https://cs.hse.ru/en/big-data/

2018 – 2021 Moscow, Russia
RESEARCH ASSISTANT HSE UNIVERSITY

Conducting research in the international laboratory of theoretical computer science

Business or Sector Professional, scientific and technical activities | **Website** https://cs.hse.ru/en/big-data/tcs-lab/

2016 – 2018 Moscow, Russia
TEACHER STATE SCHOOL 1028

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

Business or Sector Education

ADDITIONAL INFORMATION

PUBLICATIONS

Satisfiability and Model Checking for One Parameterized Extension of Linear Temporal Logic – 2022

Automatic Control and Computer Sciences (Springer), volume 56, pages 649-660.

On the Model Checking Problem for Some Extension of CTL* – 2021
Automatic Control and Computer Sciences (Springer), volume 55, pages 776-785.

Gnatenko A. R., Zakharov V. A.

On the Expressive Power of Some Extensions of Linear Temporal Logic – 2019
Automatic Control and Computer Sciences (Springer), volume 53, pages 663-675.

Gnatenko A. R., Zakharov V. A.

CONFERENCES AND SEMINARS

2 NOV 2020 – 3 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.

Link https://persons.iis.nsk.su/en/pssv2020

4 AUG 2019 – 15 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.

Link http://esslli2019.folli.info/programme/student-session/

20 JUN 2018 – 21 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.

Link https://persons.iis.nsk.su/en/pssv2018

28 MAY 2018 – 31 MAY 2018 – The 12th Anniversary Spring/Summer Young Researchers' Colloquium on Software Engineering (Russia)
On the Model Checking of Finite State Transducers over Semigroups Gnatenko A. R., Zakharov V. A.

Link http://syrcose.ispras.ru/

21 MAY 2018 – 24 MAY 2018 – Xth International Conference on Discrete Models for Control Systems (Russia)
LTL-based Specification Languages for Kripke Structures and Their Expressive Power (in Russian) Gnatenko A. R., Zakharov V. A.

Link http://agora.guru.ru/display.php?conf=dm10

18 JUN 2017 – 22 JUN 2017 – XVIII International Conference on Problems of Theoretical Cybernetics (Russia)
On the Complexity of Model Checking of Finite State Transducers over Commutative Semigroups (in Russian) Gnatenko A. R., Zakharov V. A.

Link https://agora.guru.ru/display.php?conf=ptk2017

PROJECTS

2017 – 2020
Application of Program Schemata Theory and Automata Theory to Verification and Optimization of Programs 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).

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

STUDENT SCHOOLS

JAN 2019
Winter School of the Faculty of Computer Science

Higher School of Economics, Moscow

JUL 2019
31st European Summer School in Logic, Language and Information

University of Latvia, Riga

Link https://esslli2019.folli.info/

JAN 2018
"Absolute Future" - Winter School in Physics and Mathematics

Moscow Institute of Physics and Technology

SCHOLARSHIPS

2019 – 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.

Link https://yandex.com/scholarships/students