Artem Semidetnov

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Education

BSc	**Saint-Petersburg State University**, Mathematics	2021 – 2025
BSc	**Neapolis University Of Pafos**, Applied Computer Science JetBrains Program	2022 – 2024
MSc	**Geneva University**, Mathematics	2025 – 2027

Work Experience

JetBrains, Research Intern in HoTT and Dependent Types Lab — Remote, Nov 2025 – present

JetBrains, Research Intern in HoTT and Dependent Types Lab — Pafos, Cyprus, June 2024 – Sept 2024
- I was developing the official library in the Arend language. I formalized different results in algebra and homotopy type theory, including following.
- Formalized Eckmann-Hilton argument, Eilenberg-Maclane spaces, Homologies of types.
- Formalized automorphisms of groups, Schur's Lemma, Maschke's Lemma, Group actions characterizations. (Some of these results are in the 1.10 release ⧉).

IPONWEB (acquired by Criteo), Machine Learning Intern — Pafos, Cyprus, May 2023 – Sept 2023
- Criteo has a ML tool that analyzes sites and produces word-2-vec representations. In IPONWEB I was trying to reverse-engineer the behaviour of this tool and analyze its possible applications.

Publications

On the geometry of free nilpotent groups ⧉ — May 2021
Artem Semidetnov, Ruslan Magdiev
https://doi.org/10.48550/arXiv.2106.00095 ⧉

The operad associated to a crossed simplicial group ⧉ — Dec 2025
Artem Semidetnov
https://doi.org/10.48550/arXiv.2512.14498 ⧉

Awards and Scholarships

Scholarship by "Rodnye Goroda" (a social investment program of PJSC "Gazprom neft"), 2023-2024

JetBrains Scholarship in Neapolis University

Travel grant of Chebyshev laboratory for Winter student school in mathematics and CS of HSE and MCS ⧉, Moscow

Excellence Master Fellowship at Geneva University ⧉

Teaching Experience

Sirius educational center, Teaching assistant on the course "Groups of intermediate growth" ⧉ — Sochi, Russia, Apr 2024 – May 2024

Laboratory for continuous mathematical education, mathematics teacher for gifted students — Saint-Petersburg, Russia, 2021 – 2023

Mathematics and Computer Science faculty program for prospective students, Teaching assistant on the course Braid and knot theory — Saint-Petersburg, Russia, June 2023

Selected Talks

On the geometry of free nilpotent groups
- Siberian summer conference

Novosibirsk, Russia
2021

"On the Poisson boundary of lamplighter groups" ↗
- St. Petersburg Seminar on Representation Theory and Dynamical Systems

Saint-Petersburg, Russia

"Twisting numbers on braid and Thompson's groups" ↗
- Topological Methods in Dynamics and Related Topics VII

N.Novgorod, Russia
2024

"Plus construction and simplicial methods" ↗
- Conference "Algebraic Topology, geometry, combinatorics, and data analysis" ↗

Pushkin, Russia
Aug 2025

Miscellaneous

- Finalist of 2020 Intel ISEF

- Intel ISEF alumni

- Winner of 2019 Baltic SEF, PDMI special prize in 2019 Baltic SEF

- 3rd team place in 2019 International Tournament of Young Mathematicians ↗ in Barcelona, Spain

- Organizer of the Euler International Mathematical Institute's functional analysis seminar ↗

- English level C1 (IELTS 8.0/9, taken in 2020, 2024)

- Invited judge in Saint-Petersburg Tournament of Young Mathematicians (since 2021)

- Created mathematical problem for 2024 International Tournament of Young Mathematicians 10th in here ↗

- Invited judge in International Tournament of Young Mathematicians 2024, 2025

- A member of Scientific Organization Committee in ETEAM 2025 ↗