

# Artem Semidetnov

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## Work Experience

**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.

## Education

**BS**    **Saint-Petersburg State University**, Mathematics

2021 – 2025

**BS**    **Neapolis University Of Pafos**, Applied Computer Science JetBrains Program

2022 – 2024

**M.Sc**    **Geneva University**, Mathematics

2025 – 2027

## Technologies

**Languages:** Python, Java, Kotlin, SQL, Haskell

**Technologies:** docker, PyTorch

## Publications

**On the geometry of free nilpotent groups** [↗](#)

May 2021

**Artem Semidetnov**, Ruslan Magdiev

<https://doi.org/10.48550/arXiv.2106.00095> [↗](#)

**Polynomial functors from representations (to appear)**

2025

Vladislav Romanovskii, **Artem Semidetnov**

**Operads from crossed simplicial groups**

2025

**Artem Semidetnov**

## 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

## Teaching Experience

**Sirius educational center**, Teaching assistant on the course "[Groups of intermediate growth](#)" [↗](#)

Sochi, Russia  
Apr 2024 – May 2024

<b>Laboratory for continuous mathematical education</b> , mathematics teacher for gifted students	Saint-Petersburg, Russia 2021 – 2023
<b>Mathematics and Computer Science faculty program for prospective students</b> , Teaching assistant on the course "Braid and knot theory"	Saint-Petersburg, Russia June 2023

## Selected Talks

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<b>On the geometry of free nilpotent groups</b>	Novosibirsk, Russia 2021
<ul style="list-style-type: none"> <li>Siberian summer conference</li> </ul>	
<b>"On the Poisson boundary of lamplighter groups"</b> <a href="#">↗</a>	Saint-Petersburg, Russia
<ul style="list-style-type: none"> <li>St. Petersburg Seminar on Representation Theory and Dynamical Systems</li> </ul>	
<b>"Twisting numbers on braid and Thompson's groups"</b> <a href="#">↗</a>	N. Novgorod, Russia 2024
<ul style="list-style-type: none"> <li>Topological Methods in Dynamics and Related Topics VII</li> </ul>	
<b>"Plus construction and simplicial methods"</b> <a href="#">↗</a>	Pushkin, Russia Aug 2025
<ul style="list-style-type: none"> <li>Conference "Algebraic Topology, geometry, combinatorics, and data analysis" <a href="#">↗</a></li> </ul>	

## Miscellaneous

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- 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
- [A member of Scientific Organization Committee in ETEAM 2025](#) [↗](#)