Artem Semidetnov

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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

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 \href{https://arend-lang.github.io/2024/07/05/Arend-1.10.0-released.html}{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

\href{https://arxiv.org/pdf/2106.00095}{On the geometry of free nilpotent groups} — May 2021
Artem Semidetnov, Ruslan Magdiev
https://doi.org/10.48550/arXiv.2106.00095 ↗

\href{https://arxiv.org/pdf/2512.14498}{The operad associated to a crossed simplicial group} — 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 \href{https://math.hse.ru/announcements/981291875.html?_r=27960661733829961.43133&t=8136581&r=OK}{Winter student school in mathematics and CS of HSE and MCS}, Moscow

\href{https://www.unige.ch/sciences/en/enseignements/formations/masters/excellencemasterfellowships/winners-2025}{Excellence Master Fellowship at Geneva University}

Teaching Experience

Sirius educational center, Teaching assistant on the course \href{https://sochisirius.ru/obuchenie/nauka/smena1783/8258}{"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
\href{https://m.mathnet.ru/php/seminars.phtml?option_lang=rus&presentid=34355}{"On the Poisson boundary of lamplighter groups"} • St. Petersburg Seminar on Representation Theory and Dynamical Systems	Saint-Petersburg, Russia
\href{https://disk.yandex.ru/i/52gkQhVjjRravA}{"Twisting numbers on braid and Thompson's groups"} • Topological Methods in Dynamics and Related Topics VII	N.Novgorod, Russia 2024
\href{https://cs.hse.ru/mirror/pubs/share/1075346122}{"Plus construction and simplicial methods"} • \href{https://cs.hse.ru/ata-lab/atgcda25}{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 \href{https://www.itym.org}{International Tournament of Young Mathematicians} in Barcelona, Spain

- Organizer of the \href{https://indico.eimi.ru/category/102/}{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 (\href{https://drive.google.com/file/d/1d4dqKrTKG6MI_cYQwnos8iDJWCuVIs4I/view}{10th in here}).

- Invited judge in International Tournament of Young Mathematicians 2024

- \href{https://eteam.tfjm.org/about-us-2025/}{A member of Scientific Organization Committee in ETEAM 2025}