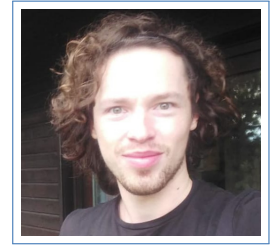


Dr. Ivan Titov

Curriculum Vitae

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📄 [Ivan-Titov-5](#)



Education

- 2017–2023 **PhD in mathematics**, *University of Heidelberg*, Germany
supervised by Priv.-Doz. Dr. Wolfgang Merkle, research area: algorithmic randomness
- 2013–2017 **M.Sc. in mathematics**, *University of Heidelberg*, Germany
supervised by Priv.-Doz. Dr. Wolfgang Merkle, area of specialization: computable analysis
- 2009–2013 **B.Sc. in mathematics**, *University of Heidelberg*, Germany
supervised by Prof. Dr. Klaus Ambos-Spies, area of specialization: complexity theory
- 2008–2009 **University preparatory studies**, *Studienkolleg Heidelberg*, Germany
- 1998–2008 **School education**, *Gymnasium No. 9*, Yekaterinburg, Russian Federation

Dissertation

- Title *Solovay reducibility and speedability outside of left-c.e. reals*
- Description The dissertation examines the monotone Solovay reducibility and the notion of speedability induced by it. The main result is the generalization of Limit Theorem of Barmpalias and Lewis-Pye on all reals.

Conference Talks

- February 2024 **Conference "Randomness, Information & Complexity"**, Marseille, France
Talk "Convergence speed of Cauchy sequences vs relative randomness of their limits"
- July 2023 **16th International Conference on Computability, Complexity and Randomness**, Kochel am See, Germany
Talk "Monotone Solovay reducibility"
- July 2022 **13th Panhellenic Logic Symposium**, Volos, Greece
Talk "Total variants of Solovay reducibility and speedability"
- July 2021 **18th International Conference on Computability and Complexity in Analysis**, Munich, Germany
Talk "Monotone Solovay reducibility and speedability"
- June 2020 **Computer Science in Russia 2020**, Yekaterinburg, Russian Federation
Talk "Speedable left-c.e. numbers"
- June 2019 **Workshop "Randomness, Information, Complexity"**, Moscow, Russian Federation
Talk "Total Solovay reducibility and uniform Schnorr reducibility"

Publications in Journals and Conference Proceedings

- 2022 **A total Solovay reducibility and totalizing of the notion of speedability**, with *Wolfgang Merkle*, 13th Panhellenic Logic Symposium (PLS 2021) Proceedings, volume II, pp 68–78 (2022)
- 2020 **Speedable left-c.e. numbers**, with *Wolfgang Merkle*, Computer Science – Theory and Applications – 15th International Computer Science Symposium in Russia (CSR 2020) Proceedings, volume 12159 of Lecture Notes in Computer Science, pp 303–313 (2020)

Professional Experience

- since 2024 **Postdoctoral researcher at the Theoretical Computer Science & Discrete Mathematics Group, University of Heidelberg**
Research area: algorithmic randomness
- 2017–2023 **Research assistant by Priv-Doz. Dr. Wolfgang Merkle at the University of Heidelberg**
Assist with the organization and tutorial work at the lectures "Einführung in die praktische informatik", "Einführung in die theoretische Informatik", "Randomisierte Algorithmen", and "Praktische Aspekte der Spieltheorie"
- 2016 **Research assistant at the Faculty of Mathematics and Computer Science, University of Heidelberg**
Lecture "Einführung in die Numerik"
- 2015 **Tutor at the Faculty of Mathematics and Computer Science, University of Heidelberg**
Lecture "Numerik partieller Differenzialgleichungen"
- 2014 **Tutor at the Faculty of Mathematics and Computer Science, University of Heidelberg**
Lecture "Numerik gewöhnlicher Differenzialgleichungen"
- 2014 **Research assistant at the Heidelberg Collaboratory for Image Processing (HCI)**
Implementation of the project "Layered Image Motion with Explicit Occlusions, Temporal Consistency, and Depth Ordering"
- 2013–2014 **Tutor at the Faculty of Mathematics and Computer Science, University of Heidelberg**
Lecture "Einführung in die Numerik"

IT Skills

Numerical-analysis software: MATLAB/GNU Octave, Maple, ILNumerics
Programming languages: Python, C++, R, PHP, Javascript
Markup languages: HTML, TeX
Libraries: OpenCV, NLTK, Pygame
Frameworks: Django, TensorFlow
other: GitHub, Microsoft Office

Languages

- Russian native proficiency
- German full professional proficiency
- English professional working proficiency
- French professional working proficiency