

Vitaly Aksenov

Curriculum Vitae

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Research interests

Algorithmics and data structures
Parallel algorithms
Concurrent data structures
Combinatorial structures
Number theory

Education

- 2015-present **PhD of Computer Science**, *Team GALLIUM, INRIA and Paris 7, France.*
Parallel computation and algorithms
- 2015-present **PhD of Computer Science**, *ITMO University, Russia.*
Joint PhD program with Paris 7
- 2013-2015 **Masters of Computer Science**, *ITMO University, Russia, GPA – 4.9/5.*
With honors
- 2014-2015 **Bioinformatics Institute**
- 2009-2013 **Bachelors of Computer Science**, *ITMO University, Russia, GPA – 5/5.*
With honors
- 2005-2009 **Physics-Mathematical Lyceum #239**

Professional Experience

- 2013-present **Junior researcher**, *Computer Technologies Lab, ITMO University, Russia.*
Combinatorics and algorithmics
- 2013, **Software engineer intern**, *Team “Cache Client”, “Facebook, Inc.”, USA.*
July-October Maintaining Data Storage, supervisor: Drew Hoskins
- 2012-2013 **Software engineer intern**, *Department of search engine, “Mail.Ru”, Russia.*
Language recognition of the phrase

Teaching

- 2017, **Course on algorithmics**, *Paris, France.*
September- November ENS Paris team qualified to ACM ICPC World Finals
- 2017, April **1-week crash-course on algorithmics**, *ETH Zurich, Switzerland.*

- 2016, **1-week crash-course on algorithmics**, *Toulouse University III*, France.
December
- 2015, **1-week crash-course on algorithmics**, *ENS Lyon*, France.
October
- 2015-present **Courses on Olympiads in Mathematics**, *ITMO University*, Russia.
Students
- 2014–2015 **Mathematical analysis**, *ITMO University*, Russia.
1st year students
- 2014, **1-week crash-course on algorithmics**, *Harbin University*, China.
October
- 2009–2016 **Courses on Olympiads in Informatics**, *ITMO University*, Russia.
Schoolchildren

Publications

- [1] V Aksenov and K Kokhas. “Domino tilings and determinants”. In: *Journal of Mathematical Sciences* 200.6 (2014), pp. 647–653.
- [2] V Aksenov and K Kokhas. “Chip removal. Urban Renewal revisited”. In: *Journal of Mathematical Sciences* 209.6 (2015), pp. 809–825.
- [3] V Aksenov and K Kokhas. “Calculation of Pfaffians by a Chip Removal”. In: *Journal of Mathematical Sciences* 215.6 (2016), pp. 631–648.
- [4] U A Acar, V Aksenov, and S Westrick. “Brief Announcement: Parallel Dynamic Tree Contraction via Self-Adjusting Computation”. In: *Proceedings of the 29th ACM Symposium on Parallelism in Algorithms and Architectures*. ACM. 2017, pp. 275–277.
- [5] V Aksenov, V Gramoli, P Kuznetsov, A Malova, and S Ravi. “A concurrency-optimal binary search tree”. In: *European Conference on Parallel Processing*. Springer. 2017, pp. 580–593.
- [6] U A Acar, V Aksenov, A Charguéraud, and M Rainey. “Performance challenges in modular parallel programs”. In: *Proceedings of the 23rd ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming*. ACM. 2018, pp. 381–382.
- [7] U A Acar, V Aksenov, A Charguéraud, and M Rainey. “Provable Granularity Control for Nested Parallel Computing”. In: *In preparation for OOPSLA* (2018).
- [8] V Aksenov, D Alistarh, and P Kuznetsov. “Brief-Announcement: Performance Prediction for Coarse-Grained Locking”. In: *Submitted to PODC* (2018).
- [9] V Aksenov, P Kuznetsov, and A Shalyto. “On Helping and Stacks”. In: *Submitted to NETYS* (2018).
- [10] V Aksenov, P Kuznetsov, and A Shalyto. “Parallel Combining: Benefits of Explicit Synchronization”. In: *Submitted to Euro-Par* (2018).

Talks

2015, February **"Combinatorial objects and their algebraic characteristics"**, *University of Geneva, Switzerland.*

Professional Activities

2017, July **The First Summer School on Practice and Theory of Concurrent Computing**, *ITMO University, Russia.*
Co-organizer

Courseworks

2014-2015 Denovo assembler using MapReduce. Supervisor: Maxim Mikheev, BioDatomics
2013-2014 Parallel SAT-solver based on physical system. Supervisor: Yuri Matiyasevich, RAS
2012-2013 Translation from picture of formulae to LaTeX
2012-2013 A fast algorithm for distinguishing Russian, Ukrainian and Kazakh languages by phrase
2011-2012 Specification of tests for ACM ICPC Problems made for automatic generation. Supervisor: Maxim Buzdalov, ITMO University

Awards

2016 "Deadline 24", finalist
2015 Best ITMO University masters thesis award
2015 First prize on North Countries Universities Mathematical Competition, 6th place
2014 Student Grant of Saint-Petersburg Government
2014 First prize on International Mathematics Competition for University Students, 27th place
2014 First prize on North Countries Universities Mathematical Competition, 8th place
2014 15th place on final "Challenge 24"
2013 3rd place on Electronic Contest, 13th place on final. "Challenge 24"
2008-2009 All-Russian School Olympiad in Mathematics, Prize Winner
2009 All-Russian School Olympiad in Informatics, Prize Winner

Other activities

2017-present **Chief Judge**, *Bioinformatics Contest.*
contest.bioinf.me
2015-present **Software engineer**, *ICPC Live team on ACM ICPC World Finals.*
<https://github.com/Aksenov239/icpc-live-v2>
2012-present **Jury member**, *ACM ICPC, Northeastern European Regional Contest.*
2011-present **Jury member**, *"Russian Code Cup".*
2010-present **Jury member**, *All Russian School Team Olympiad in Informatics.*
2009-present **Jury member**, *St Petersburg School Olympiad in Informatics.*

2010-2015 **Jury member**, “Codeforces.ru”.

2013-2014 **Jury member**, “Kotlin Cup”.

██████████ Languages

Russian Native

English Intermediate

French Basics

FCE Certificate, Grade B