

Pavel Chuprikov

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Work Experience

Università della svizzera italiana

Postdoc

Computer Systems Institute

Lugano, Switzerland

January 2020–present

IMDEA Networks Institute

Research assistant

Networked Systems Group

Madrid, Spain

February 2016–January 2020

Research title: Network algorithms

Supervisor: Kirill Kogan

IMDEA Networks Institute

JetBrains

Software developer

HoTT and Dependent Types Group

St. Petersburg, Russia

September 2015–February 2016

JetBrains

Software engineering intern

HoTT and Dependent Types Group

St. Petersburg, Russia

Summer 2015

JetBrains

Software engineering intern

Group for Verification of Operational Transformation

St. Petersburg, Russia

Summer 2014

Transas New Technologies

Software Engineering Intern

3D visualization department

St. Petersburg, Russia

Fall 2011–Fall 2013

Education

Steklov Institute of Mathematics at St. Petersburg

PhD student

Laboratory of Mathematical Logic

St. Petersburg, Russia

2015–2019

Research title: Theoretical and Empirical Analysis of Fundamental Bottlenecks in Networking and Distributed Computing

Supervisor: Sergey Nikolenko

HSE University, Steklov Institute of Mathematics at St. Petersburg

Supervisor: Kirill Kogan

IMDEA Networks Institute

Defended at: HSE University (Moscow, Russia)

ITMO University

Student

School on practice and theory of concurrent computing, summer school

St. Petersburg, Russia

July 2017

St. Petersburg Academic University of the Russian Academy of Sciences

Master of Science student

Applied Mathematics and Physics course at department of Mathematics and Information Technology

St. Petersburg, Russia

2013–2015

St. Petersburg Bioinformatics Institute

Student

Algorithmic Bioinformatics, supplementary education

2014–2015

ITMO University

Bachelor of Science student

Applied Mathematics and Information Science course at Computer Technology department

St. Petersburg, Russia

2009–2013

Publications

Journals:

- P. Chuprikov, A. Davydow, K. Kogan, A. Sirotkin, S. I. Nikolenko. *Formalization and taxonomy of compute-aggregate problems for cloud computing applications*, Computer Network, 2021
- A. Davydow, P. Chuprikov, S. I. Nikolenko, K.Kogan. *Competitive buffer management for packets with latency constraints*, Computer Networks, 2021
- V. Demianiuk, S. I. Nikolenko, P. Chuprikov, K. Kogan. *New Alternatives to Optimize Policy Classifiers*, IEEE/ACM Transactions on Networking, 2020
- P. Chuprikov, S. I. Nikolenko, K. Kogan. *Towards declarative self-adapting buffer management*, ACM SIGCOMM CCR, 2020

- **P. Chuprikov**, S. I. Nikolenko, A. Davydow, K. Kogan. *Priority Queueing for Packets With Two Characteristics*, IEEE/ACM Transactions on Networking, 2018

Conference proceedings:

- V. Demianiuk, S. Nikolenko, **P. Chuprikov**, K. Kogan. *New Alternatives to Optimize Policy Classifiers*, ICNP 2018
- **P. Chuprikov**, A. Davydow, K. Kogan, S. Nikolenko, A. Sirotkin. *Formalizing Compute-Aggregate Problems in Cloud Computing*, SIROCCO 2018,
- **P. Chuprikov**, K. Kogan, S. I. Nikolenko. *How to implement complex policies on existing network infrastructure*, SOSR 2018,
- K. Kogan, S. I. Nikolenko, V. Demianiuk, **P. Chuprikov**, A. Davydow. *Personal insights on three research directions in networked systems*, COMSNETS 2018
- **P. Chuprikov**, K. Kogan, S. I. Nikolenko. *General ternary bit strings on commodity longest-prefix-match infrastructures*, ICNP 2017
- A. Davydow, **P. Chuprikov**, S. Nikolenko, K. Kogan. *Throughput Optimization with Latency Constraints*, INFOCOM 2017
- S. Sinchuk, **P. Chuprikov**, K. Solomatov. *Verified operational transformation for trees*, ITP 2016
- **P. Chuprikov**, S. Nikolenko, K. Kogan. *On Demand Elastic Capacity Planning for Service Auto-scaling*, INFOCOM 2016
- **P. Chuprikov**, S. Nikolenko, K. Kogan. *Priority Queueing with Multiple Packet Characteristics*, INFOCOM 2015

Posters:

- **P. Chuprikov**, A. Davydow, K. Kogan, S. I. Nikolenko, A. V. Sirotkin. *Planning in compute-aggregate problems as optimization problems on graphs*, ICNP 2017

Other merits

- Ad-hoc reviewer for Transactions on Networking, INFOCOM, ICNP, ESOP
- Yandex research-supporting scholarship, September 2013–June 2015.
- Third degree award at ACM ICPC NEERC 2011.
- Third place at International High Performance Programming Contest 2013.
- Third degree award at Putnam competition at St. Petersburg, 2013.

Research interests

- Packet classification
- Online algorithms and competitive analysis
- Admission control and packet management
- Network congestion control
- Formal methods and programming languages
- Distributed systems

Skills

Computing: Linux, C++, Python, Rust, Git, LaTeX (TikZ), Coq, Nix, Haskell, Agda

Computer Networks: NS2, OpenFlow, P4, Mininet

Research: multidisciplinary research, collaborative research, scientific writing

Other: juggling, cycling, electrical engineering hobbyist

Languages

English: Fluent

Russian: Native

Italian: Elementary

Spanish: Beginner