Sergey Kirgizov

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5/6/1988, Married, with two children

Languages

Russian, French and English

Academic positions

Université Bourgogne Franche-Comté   **Dijon, France**
Research and Teaching Fellow (ATER)   *2015–present*

Université Bourgogne Franche-Comté   **Dijon, France**
Postdoc Research Fellow   *2014–2015*

Education

Université Pierre et Marie Curie   **Paris, France**
PhD in Computer Science   *2011–2014*
Thesis: "Empirical analysis and modeling of the Internet topology dynamics"

Altay State University   **Barnaul, Russia**
Master degree in Applied Mathematics and Informatics   *2009–2011*
Thesis: "Data mining as a service, The workflow model", `http://scisaas.com`

Université Pierre et Marie Curie   **Paris, France**
Master 2 Training   *Apr–Sep 2011*
Thesis: "Software architectures for decision and coordination in autonomic computing"

Université Pierre et Marie Curie   **Paris, France**
Master Training   *Jun–Dec 2010*
Thesis: "Tools for the autonomic management of resources in virtualized data centers"

Altay State University   **Barnaul, Russia**
B.S. in Mathematics   *2005–2009*

Lyceum of Informatiion Technologies "Kvant"   **Barnaul, Russia**
Thesis: "Search system for Intranet site"   *2003–2005*

Honors and awards

Best Start-Up award
Our start-up "Scientific Saas" http://scisaas.com won the competition "IT-Start"   *2012*

Best Paper Award
The Seventh International Conference on Autonomic and Autonomous Systems, ICAS   *2011*

Prize "For the fastest solution of the most difficult task"
All-Russia Oracle Database Olympiad   *2009*

Scholarship for Excellence in Studies   *2009–2011*

Gold Medal for Excellence in Studies   *2005*

Barnaul City Mayor's Special Scholarship for Excellence in Studies   *2004–2005*

Software development positions

Start-Up: Scientific Saas   `http://scisaas.com`
Software engineer and architect, Cloud Web-Applications for Data Mining   *2010–2013*
- Representational principles of scientific workflows for data mining processes
- Algorithm for parallel workflow execution
- Infrastructure works

Altay State University   **Barnaul, Russia**
Software engineer and Team Leader   *2007–2010*
- Electronic staff directory for Altay State University
- Airlines/train tickets management system and related services
- Electronic document processing system (with digital signatures)
- Electronic students directory for Altay State University
- Several educational programs for Sun SPOT.

Publishing House "Region"   **Barnaul, Ruissia**
Web-site administrator   *2009*
- Database administration
- Online technical support

Publishing House "Info-Market"   **Barnaul, Russia**
System and network administrator   *2006-2007*
- Administration of Linux gateways
- Postfix, Sendmail mail servers

Computer Skills

Programming Languages: R, Python, C, Scheme, Java (SE, EE, ME), PHP, Perl, Bash, JavaScript, SQL; some knowledge in Awk, Scala, Erlang, Haskell and *ML

Markup languages: YML, HTML, XML, XSL, JSON, Asciidoc, Markdown

Typesetting: *TeX, TikZ

Scientific software: R, SymPy, Maple, Scilab, GNU/Octave, Maxima, Matlab

OS: Debian-like, Arch, Gentoo, FreeBSD, OpenBSD, Windows, Mac OS

RDBMS: PostgreSQL, SQLite, Redis, Oracle, MySQL

Version Control Systems: Mercurial, Git, Subversion, Darcs, GNU arch, Fossil, Bazaar

Build processes: Make, maven

Web-frameworks: Flask

Server-side software: Web-servers (e.g., Apache, Lighttpd), Squid, Postfix, Asterisk IP-PBX

IDE: Eclipse, Netbeans

Virtualization systems: Qemu, VMWare, VirtualBox

Other: ImageMagick, Gnuplot, Emacs, Arduino, Sun SPOT and LeJOS, some knowledge in FPGA design and programming

Publications

International Scientific Journals

1. **Information fusion-based approach for studying influence on twitter using belief theory**
   Lobna Azaza, Sergey Kirgizov, Marinette Savonnet, Éric Leclercq, Nicolas Gastineau, and Rim Faiz
   Computational Social Networks, 3 (2016), pp. 1–26

2. **The complexity of deciding whether a graph admits an orientation with fixed weak diameter**
   Julien Bensmail, Romaric Duvignau, Sergey Kirgizov
   Discrete Mathematics and Theoretical Computer Science (DMTCS), 17(3):31-42, 2016.

3. **Suppression Distance Computation for Set Covers and Hierarchies**
   François Queyroi and Sergey Kirgizov
   Information Processing Letters 115.9 (2015): 689-693, 2015

4. **Towards realistic modeling of IP-level routing topology dynamics**
   Clémence Magnien, Amélie Medem, Sergey Kirgizov and Fabien Tarissan
   Networking Science, December 2013

Submitted Articles to Scientific Journals

1. **Patterns in treeshelves**
   Jean-luc Baril, Sergey Kirgizov and Vincent Vajnovszki
   `https://arxiv.org/abs/1611.07793`

2. **The pure descent statistic on permutations**
   Jean-luc Baril, Sergey Kirgizov

3. **The limit of generalised Dempster-Shafer-Smets operator**
   Nicolas Gastineau, Sergey Kirgizov, Lobna Azaza

Book chapters

1. **Tweets from the Campaign Trail: Researching Candidates' Use of Twitter during the European Parliamentary Elections**, co-auteur du chapitre *"SNFreezer: a Platform for Harvesting and Storing Tweets in a Big Data Context"*, à paraître, éditeur Peter Lang

2. **Applications of Complex Networks Analysis to Biological Systems—From Biomolecular Structure to Gene Regulation**, co-auteur du chapitre *"How much Proteins Contact Networks are eccentric? A signaling networks perspective of PCN eccentricity"*, à paraître, éditeurs : Luisa Di Paola and Alessandro Giuliani, Elsevier, 2016+

Peer-Reviewed International Conferences

1. **Temporal density of complex networks and ego-community dynamics**
   Sergey Kirgizov, Eric Leclercq
   Annual Conference on Complex Systems (ECCS or CCS), Amsterdam, 2016

2. **Towards a Twitter Observatory: A multi-paradigm framework for collecting, storing and analysing tweets**
   Ian Basaille, Sergey Kirgizov, Éric Leclercq, Marinette Savonnet, et Nadine Cullot
   RCIS 2016, IEEE Tenth International Conference on Research Challenges in Information Science, 1-3 June 2016, *Grenoble, France*

3. **A web application for event detection and exploratory data analysis for Twitter data** *Sergey Kirgizov, Eric Leclercq, Marinette Savonnet, Alexander Frame, Ian Basaille-Gahite*
   Twitter at the European Elections 2014: International Perspectives on a Political Communication Tool, *Dijon, 2015*

4. **Influence Assessment in Twitter Multi-Relational Network** *Lobna Azaza, Sergey Kirgizov, Marinette Savonnet, Éric Leclercq, Rim Faiz*
   Eleventh International IEEE Conference on Signal Image Technologies and Internet-Based System

(SITIS), *Bangkok, Thailand: 436-443, 2015*

5. **On the complexity of turning a graph into the analogue of a clique**
   Julien Bensmail, Romaric Duvignau, Sergey Kirgizov
   9th International colloquium on graph theory and combinatorics (ICGT), 2014

6. **Using Reinforcement Learning for Autonomic Resource Allocation in Clouds: towards a fully automated workflow**
   Xavier Dutreilh, Sergey Kirgizov, Olga Melekhova, Jacques Malenfant, Nicolas Rivierre, and Isis Truck
   In The 7th International Conference on Autonomic and Autonomous Systems (ICAS'2011), *best paper award, 2011*

Peer-Reviewed French National Conferences

1. **Packing coloring and subsets preserving path distance**
   Nicolas Gastineau, Benjamin Gras, Sergey Kirgizov, Mahmoud Omidvar
   Journées Graphes et Algorithmes (JGA), Paris, 2016

2. **(Re)constuire la temporalité d'un événement médiatique sur Twitter : une étude contrastive**
   Tatiana Kondrashova, Alexander Frame, and Sergey Kirgizov
   XXe congrès de la SFSIC : Temps, temporalités et information-communication, *8-10 juin 2016 Metz (France)*

3. **Évaluation de l'influence dans un réseau multi-relationnel : le cas de Twitter**
   Lobna Azaza, Sergey Kirgizov, Marinette Savonnet, Éric Leclercq, Rim Faiz
   INFORSID'2016, Le congrès INFORSID (INFormatique des ORganisations et Systèmes d'Information et de Décision, *du 31 mai au 3 juin, à Grenoble, France*

4. **A la recherche des mini-publics : un problème de communautés, de singularités et de sémantique**
   Données participatives et sociales
   Eric Leclercq, Sergey Kirgizov, Maximilien Danisch
   16ème conférence francophone sur l'Extraction et la Gestion des Connaissances (EGC 2016): l'atelier Données participatives et sociales, *Reims, Janvier 2016*

5. **Evaluation de l'influence sur Twitter : Application au projet "Twitter aux Elections Européennes 2014"**
   Sergey Kirgizov, Lobna Azaza, Éric Leclercq, Marinette Savonnet et Alexander Frame
   Journées d'étude "Etudier le Web politique : Regards croisés", *Lyon, 12-13 Mai 2015*

6. **Internet Topology Dynamics: stochastic process estimation from partial observations**
   avec Clémence Magnien
   Journée jointe des GDR ISIS et Phénix "Analyse et inférence pour les réseaux", *Paris, 2013*

7. **Distribution multimodale de la taille du sous-graphe des plus courts chemins dans un graphe aléatoire**
   Journées Graphes et Algorithmes *(JGA), Orsay, 2013*

8. **Dynamique de la topologie de l'internet : impact de la fréquence de mesure sur les observations**
   24ème colloque Gretsi, *Brest, France, 2013*

9. **Vers une modélisation réaliste de la dynamique de la topologie de routage au niveau IP**
   Journées Automnales 2012 ResCom, *Paris, 2012*

Other talks

1. **Graph-streaming pour l'étude de la dynamique des sphères médiatiques et politiques**
   Réunion Projet CNRS PEPS MOMIS, Paris, 2015
2. **Graph-streaming pour l'étude de la dynamique des sphères médiatiques et politiques**
   Assemblée générale du Le2i, Dijon, 2015
3. **Papers$^\gamma$, Discussing board for scientific papers**
   Conference SO Data 3, Paris, 26 Mars 2015

4. **Analyse empirique et modélisation de la dynamique de la topologie de l'Internet**
   seminaire au LE2I, Dijon, 6 November 2014
5. **Internet topology dynamics in ten minutes**
   Masterclass-discussion with Vint Cerf, 2014

Posters

1. **Internet Topology Dynamics: stohastic process estimation from partial observations** *Journée jointe des GDR ISIS et Phénix "Analyse et inférence pour les réseaux"*, Paris, 2013

Notes, short articles, essais

1. **Metric space of hierarchies**, 2013
2. **A new graph density**, 2015, `http://sjscience.org/article?id=205`
3. **Stochastic process estimation from partial observations: Poisson case**, Sergey Kirgizov, François Queyroi, 2014

Communication skills

6 presentations at international conferences, 7 presentations at national french conferences, 5 other talks (including a presentation at General Assembly of Le2i research laboratory, the final presentation of a CNRS research project, and a masterclass-discussion with Vint Cerf), 1 poster presentation.

Teaching activities (in french):

Subject		Amount of hours
2016-2017, Research and Teaching Fellow (ATER), Université de Bourgogne		
Master 2 - Machine learning: reinforcment learning	Lectures, Tutorials, Labs	12h
Licence 2 - C/C++	Lab sessions	60h
	Tutorials	8h
Licence 2 - Operating Systems (network, threads, etc)	Lab sessions	40h
For Phd Students - OpenMP	Lectures, Tutorials, Labs	10h
For Phd Students - MPI	Lectures, Tutorials, Labs	10h
Licence 1 - Java, first steps	Tutorials	36h
	Lab sessions	72h
2015-2016, Research and Teaching Fellow (ATER), Université de Bourgogne		
Licence 1 - Java, first steps	Lectures	32h
	Lab sessions	80h
Licence 2 - Operating Systems (network, threads, etc)	Lab sessions	60h
Licence 2 - C et C++	Lab sessions	40h
Licence 1 - Advanced algorithms, OOP	Lab sessions	40h
2015, postdoc, Université de Bourgogne		
Licence 1 - Visual interfaces (Java)	Lab sessions	40h
2012-2014, PhD Teaching fellow, Université Pierre et Marie Curie		
Licence 2 - Compilation and virtual machines (Scheme, C)	Lab sessions	13.5h
Licence 1 - Recursive programming (Scheme)	Tutorial and lab sessions	84h
Licence 2 - Discrete Structures (logic, automata theory)	Lab sessions	10.5h
	Total	648h

Administrative responsibilites and other activities

1. Principal participant of PEPS MoMIS SEISME project — "Graph-Streaming pour l'etude de la dynamique des sphères politiques et mediatiques".
2. Author of Papers$^\gamma$ — discussing (and publishing) board for scientific papers.
3. Reviewer for ALGOTEL, IEEE Communications Letters, CompleNet, Internationa Journal of Computer Mathematics.
4. Member of the organisation committee of
 (a) 7th Workshop on Complex Networks, CompleNet 2016;
 (b) ALGOTEL 2015 conference;
 (c) MARAMI 2014 conference;
 (d) Journée thématique "Dynamique des graphes" 2012;
 (e) Journées Automnales 2012 ResCom à Paris 6.
5. Supervision of research trainee: L3 student of ENS Lyon.
6. Administration of ComplexNetworks team's website during my PhD.

Hobbies

`http://art.kirgizov.link`