

European Curriculum Vitae

Personal information

First name(s) / Surname(s) **Radu Marius Tudoran**
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Nationality Romanian
Date of birth 16 December 1986
Gender Male

Personal summary

A highly competent and enthusiastic cloud computing and Big Data specialist, with a good eye for detail and a strong technical background, who possesses self-discipline and the ability to work with the minimum of supervision. Able to apply research skills to analyze problems and come up with creative solutions, methodologies and techniques for effective data management and processing across large-scale infrastructures, in order to deliver quality solutions which meet business objectives. Possessing a good team spirit, as part of several multi-cultural teams in 4 countries during the academic studies, and having the ability to develop and present, deadline orientated, complex solutions to improve the efficiency of data processing, reduce operating costs and increase performance. A quick learner who can absorb new ideas and can communicate clearly and effectively.

Professional experience

Dates	October 2011 – present
Occupation	PhD Student
Main activities and responsibilities	Cloud Computing research with the main topic of: High-Performance Big Data Management Across Cloud Data Centers
Name of employer	KerData team INRIA Rennes, France
Dates	October 2011 – present
Occupation	Technology Consultant (Mission d'expertise)
Main activities and responsibilities	Offer technical consultancy for Microsoft regarding the cloud and its usage
Name of employer	Microsoft – INRIA Joint Center, Saclay, Paris region, France
Dates	September 2013 – November 2013
Occupation	Invited Researcher
Main activities and responsibilities	Design a high performance streaming solution across cloud data centers
Name of employer	Microsoft Advanced Technology Lab Europe, Data Analytics Group, Munich, Germany
Dates	May 2013 – August 2013
Occupation or position held	Invited Researcher
Main activities and responsibilities	Design and analyze streaming strategies for infrastructure clouds
Name of employer	Argonne National Lab, Chicago, IL, US
Dates	August 2012 – November 2012
Occupation or position held	Invited Researcher
Main activities and responsibilities	Propose data management solutions for workflow processing on clouds
Name of employer	Microsoft Advanced Technology Lab Europe, Cloud Group, Aachen, Germany

Dates February-June 2011
Occupation Research Intern
Main activities and responsibilities Propose optimizations for data management within public clouds. Designed and implemented an advanced MapReduce-like programming model for data-intensive applications
Name of employer KerData team INRIA Rennes, France

Dates June-September 2009
Occupation Research Intern
Main activities and responsibilities Develop Arithmetic Mathematic Operators for FloPoCo project
Name of employer Ecole Normale Superior de Lyon, France

Dates January 2008-June 2010
Occupation or position held Research Intern
Main activities and responsibilities Develop cryptographic applications and random number generators both in software and hardware
Name of employer Technical University, Cryptographic team, Cluj-Napoca, Romania

Dates September-October 2007
Occupation or position held Intern software engineer
Main activities and responsibilities Develop demos related to FPGAs, for the firms tutorials and training materials
Name of employer National Instruments, Cluj-Napoca, Romania

Education

Dates 2011 – present (2014 estimated date of the PhD defence)
Title of qualification awarded PhD
Principal subjects/occupational skills covered Computer Science, Cloud Computing and Big Data
Name and type of organisation providing education and training ENS Cachan-Antenne de Bretagne/ENS Rennes, France
MATISSE Scholarship

Dates 2013 – present (2015 estimated date of program completion)
Title of qualification awarded Doctoral Program for Entrepreneurship and Innovation
Principal subjects/occupational skills covered High-level Innovation & Entrepreneurship Education
Name and type of organisation providing education and training EIT ICT Labs Doctoral School

Dates 2010 – 2011
Title of qualification awarded Master of Research, 2nd year
Principal subjects/occupational skills covered Computer Science, Network and Distributed Systems
Name and type of organisation providing education and training ENS Cachan-Antenne de Bretagne, France
ENS international Scholarship

Dates 2006-2010
Title of qualification awarded Bachelor of Computer Science
Engineer Licence diploma with maximum mark (10)
Internet Base Toefl – October 2009 with a score of 103
October 2008 – July 2010 – Scholarship of performance
October 2007 – July 2008 – Scholarship of excellence
January 2007 – July 2007 – Scholarship of study
Principal subjects/occupational skills covered Computer Science and Information Technology in English
Name and type of organisation providing education and training The Technical University of Cluj-Napoca- Computer Science Department, Romania

Dates	2002-2006
Title of qualification awarded	2006- Baccalaureat and Diploma of professional competences in operating computers 2005 and 2006- obtaining the second place in the ACSL (American Computer Science League) All Star Contest (as an individual) and the 5 th and 7 th place (as a team) 2002 and 2003- received award after participating in a mathematic-physics national competition (1 st and 2 nd place) 2002-2006- I have participated in the national Olympics contest in physics (2 nd and 3 rd place), mathematics (3 rd place) and computer science (1 st and 2 nd)
Principal subjects/occupational skills covered	Mathematics, Physics and Computer Science
Name and type of organisation providing education and training	The “Tiberiu Popoviciu” Computer Science High School, Cluj-Napoca, Romania

Additional Trainings

Dates and Organization	2014, Microsoft Research, Cambridge, UK
Principal subjects/occupational skills covered	PhD Summer School
Principal subjects	Communication in Research: Papers, Presentations, Posters
Dates and Organization	2014, INRIA Grenoble, France
Principal subjects/occupational skills covered	Winter School: Hot Topics in Distributed Computing
Principal subjects	Transactional Memory, Issues in Distributed Protocols
Dates and Organization	2014, Graduate School of Management – IGR-IAE Rennes, France
Principal subjects/occupational skills covered	I&E Education - Business Modeling & Development
Principal subjects	Marketing, Business Management, Entrepreneurship
Dates and Organization	2013, EIT ICT Labs Paris, France
Principal subjects/occupational skills covered	Business and Management Opportunity Recognition: Raising I&E Awareness
Principal subjects	Marketing, Entrepreneurship
Dates and Organization	2013, INRIA Grenoble, France
Principal subjects/occupational skills covered	Winter School: Hot Topics in Distributed Computing
Principal subjects	Network, Transactional Memory
Dates and Organization	2012, INRIA Grenoble, France
Principal subjects/occupational skills covered	Winter School: Hot Topics in Distributed Computing
Principal subjects	Security, Distributed Protocols

Areas of Expertise

Programming languages	I have programmed in: C# for more than 5 years, C/C++ for more than 4 years and in Java and VHDL for more than 3. Additional programming languages and technologies that I have worked with are: SQL, ASSEMBLY, HTML, ASP.NET, Linq, PHP, Lisp, Prolog, Haskell, Python. I can easily work with OFFICE Tools and LATEX.
Cloud toolkits	I have worked with Azure cloud for more than 3 years, at all usage levels: IaaS (VM Roles), PaaS (Worker and Web Roles Deployments) and SaaS (services for scientific applications such as: Real-time Streaming, Transfer Service, MapReduce for Bio-Informatics, Cloud Data Centers Network Benchmarking). Additionally, I have used Nimbus and OpenStack.
Distributed Systems	I have worked with: Hadoop and other MapReduce-based engines; Databases such as MySQL, Microsoft SQL Server, PostgreSQL; NoSQL databases such as Cassandra and Azure Tables; and Real-Time Complex Event Processing Systems such as StreamInsight
Operating Systems	Windows and Linux

Languages

Mother tongue	Romanian	
Other language(s)	English, French	
	English	French
• Reading skills	Proficient user	Advanced user
• Writing skills	Proficient user	Intermediate user
• Verbal Skills	Proficient user	Intermediate user

Personal Skills

Social skills and competences

Team work

I can easily integrate myself and work into multi-cultural teams. So far, I have been part of research teams in: Technical University of Cluj-Napoca, Romania; KerData team at INRIA Rennes, France; Cloud Team and Data Analytics Team at Microsoft ATLE Germany; Nimbus Team, Argonne US.

I was involved in the A-Brain project (<http://www.irisa.fr/kerdata/doku.php?id=abrain>), which involved multiple parties located in geographical different sites, thus having the opportunity to work also in a group that is distributed geographically (Rennes, Paris, Aix-La-Chapelle/Aachen).

Additionally, I have been part of various other teams ranging from academic competition teams such ACSL team to sport teams: basketball, football and hockey.

Communication

I took part in several trainings and communication symposiums related to scientific, business and entrepreneurship information dissemination.

I am able to deliver speeches and presentations in front of large audiences.

Organisational skills and competences

Teaching

I organized the “Efficient Programming” course at ENS Cachan Antenne de Bretagne, with the goal of training the university team for the ACM student competition.

Supervision

During the PhD, I co-supervised the internships of four master students. I was responsible with the technical and research guidance of the students, organizing face to face meetings: scrum and brainstorming sessions.

Technical projects

In chronological order:

FloPoCO: Mathematic Operators

My role was to develop and improve arithmetic operators for FPGAs.

Crypto Pro: TRNG/URNG

My role was to develop new True or Unpredictable Random Number Generators and techniques for obtaining them, both in hardware and software.

ABrain: Cloud and MapReduce-based Data Analytics

I worked for several years with the Azure cloud platform. In this context I have developed the TomusBlobs middleware for federating virtual disks of compute nodes in public clouds. This is leveraged as a storage backend for MapReduce-based computation. To this purpose, I have developed a multi-site MapReduce platform and an extension to the MapReduce paradigm - Map-Iterative-Reduce

Z-CloudFlow: Cloud Data Center Network Benchmarking SaaS

I developed a web-based cloud service, which enables online evaluation of the network throughput to the data centers of a cloud provider.

Z-CloudFlow: Real-time, Cloud Streaming Middleware

Development, in collaboration with the Data Analytics group from Microsoft, of the JetStream middleware for high-performance event streaming across cloud data centers.

Artistic skills and competences I appreciate theatre and philosophy.

Hobby Philosophy, History, Literature and Sports.
I am particularly passionate about philosophy and history, taking part in various conferences, symposiums and debates on these topics.
I am also interested in the European culture, especially literature and symbolism.
I enjoy doing sports: tennis, snowboarding, basketball, football and swimming.

Selected Publications

Radu Tudoran, Alexandru Costan and Gabriel Antoniu Transfer as a Service: Towards a Cost-Effective Model for Multi-Site Cloud Data Management. In Proc. of the 2014 33rd IEEE Symposium on Reliable Distributed Systems (SRDS 2014), Nara, Japan, October 2014

Radu Tudoran, Olivier Nano, Ivo Santos, Alexandru Costan, Hakan Soncu, Luc Bougé, Gabriel Antoniu JetStream: enabling high performance event streaming across cloud data-centers. In Proc. of the 8th ACM International Conference on Distributed Event-Based Systems (DEBS '14), Mumbai India, May 2014

Radu Tudoran, Alexandru Costan, Rui Wang, Luc Bougé, Gabriel Antoniu Bridging Data in the Clouds: An Environment-Aware System for Geographically Distributed Data Transfers. In Proc. 14th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid'2014), May 2014, Chicago, IL, US

Radu Tudoran, Kate Keahey, Pierre Riteau, Sergey Panitkin and Gabriel Antoniu Evaluating Streaming Strategies for Event Processing across Infrastructure Clouds. In Proc. 14th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid'2014), May 2014, Chicago, IL, US

Benoit Da Mota, Radu Tudoran et al Machine learning patterns for neuroimaging-genetic studies in the cloud. In the journal of Frontiers in Neuroinformatics 2014

Radu Tudoran, Alexandru Costan, Ramin Rezaei Rad, Goetz Brasche and Gabriel Antoniu Adaptive file management for scientific workflows on the Azure cloud. In the Proc. of the IEEE 2013 BigData conference (BigData 2013), Santa Clara, US, October 2013

Alexandru Costan and Radu Tudoran Gabriel Antoniu and Goetz Brasche TomusBlobs: Scalable Data-intensive Processing on Azure Clouds, In the journal of Concurrency and Computation Practice and Experience 2013

Radu Tudoran, Alexandru Costan, Gabriel Antoniu DataSteward: Using Dedicated Compute Nodes for Scalable Data Management on Public Clouds. TrustCom/ISPA/IUCC 2013, Melbourne Australia

Radu Tudoran, Alexandru Costan, Gabriel Antoniu MapIterativeReduce: A Framework for Reduction-Intensive Data Processing on Azure Clouds. Third International Workshop on MapReduce and its Applications (MAPREDUCE'12), in conjunction with ACM HPDC'12., Jun 2012, Delft, Netherlands

Radu Tudoran, Alexandru Costan, Gabriel Antoniu, Hakan Soncu TomusBlobs: Towards Communication-Efficient Storage for MapReduce Applications in Azure. In Proc. 12th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid'2012), May 2012, Ottawa, Canada

Radu Tudoran, Alexandru Costan, Gabriel Antoniu, Luc Bougé A Performance Evaluation of Azure and Nimbus Clouds for Scientific Applications, ClouCP Workshop, in conjunction with EuroSys 2012, Berne, Switzerland

Before PhD

Sebastian Banescu, Florent de Dinechin, Bogdan Pasca, Radu Tudoran Multipliers for Floating-Point Double Precision and Beyond on FPGAs 1st International Workshop on Highly Efficient Accelerators and Reconfigurable Technologies (HEART2010), Tsukuba, Japan

Radu Tudoran, Banescu Sebastian, Octavian Cret, Alin Suciuc Implementing True Random Number Generators by Overfilling the FPGA Chip. FPGAWorld 2009, Stockholm, Sweden

Octavian Cret, Radu Tudoran, Alin Suciuc, Tamas Gyorfi Implementing True Random Number Generators in FPGAs by Chip Filling. SECRYPT 2009, Milano, Italy

Adrian Coleşa, Radu Tudoran, Sebastian Banescu Software Random Number Generation Based on Race Conditions ,SYNASC'08, September 31 -1 October ,Timisoara, Romania

Florent de Dinechin, Bogdan Paşca, Octavian Cret, Radu Tudoran An FPGA-specific Approach to Floating-Point Accumulation and Sum-of-Products. Proceedings of the 2008 International Conference on Field-Programmable Technology (FPT), Taipei, Taiwan

Octavian Cret, Florent De Dinechin, Radu Tudoran, Ionut Trestian, Laura Cret, Lucia Vacariu

FPGA-based Acceleration of the Computations Involved in Transcranial Magnetic Stimulation. In Proc. of the 4th Southern Conference on Programmable Logic, SPL 2008, San Carlos de Bariloche, Argentina

Florent de Dinechin, Jérémie Detrey, Octavian Cret, Radu Tudoran

When FPGAs are better at floating-point than microprocessors. FPGA 2008

Talks

- | | |
|--------------------|---|
| Event | DEBS 2014 |
| Presentation Title | JetStream: Enabling High-Performance Event Streaming across Cloud Data-Centers |
| As | Author Presentation |
| Event | Microsoft Internal Presentation, Munich, Germany, 2013 |
| Presentation Title | Streaming And Processing Events across Cloud Data-Centers |
| As | Invited Speaker |
| Event | Microsoft Internal Presentation, Munich, Germany, 2013 |
| Presentation Title | Streaming And Processing Events across Cloud Data-Centers |
| As | Invited Speaker |
| Event | ARGONE Internal Presentation, Chicago, IL, US, 2013 |
| Presentation Title | Streaming to the cloud |
| As | Visiting PhD Student |
| Event | Trustcom/ISPA |
| Presentation Title | DataSteward: Using Dedicated Compute Nodes for Scalable Data Management on Public Clouds |
| As | Author Presentation |
| Event | Microsoft TechDays 2013 |
| Presentation Title | Azure Brain: 4th paradigm, scientific discovery & (really) big data |
| As | Invited Speaker |
| Event | Microsoft Internal Presentation, Paris, France, 2013 |
| Presentation Title | The Azure-Brain project: how BIG can really be the BIG Data! |
| As | Invited Speaker |
| Event | Microsoft Internal Technical Presentation, 2013 |
| Presentation Title | (Scientific) Data Management and Processing in Clouds: A Research perspective |
| As | Invited Speaker |
| Event | Microsoft Research Next 2012 |
| Presentation Title | A-Brain: Using the Cloud to Understand the Impact of Genetic Variability on the Brain |
| As | Invited Speaker |
| Event | CCGrid 2012 |
| Presentation Title | TomusBlobs: Towards Communication-Efficient Storage for MapReduce Applications in Azure |
| As | Author Presentation |
| Event | CloudFutures 2012 |
| Presentation Title | A-Brain: Using the Cloud to Understand the Impact of Genetic Variability on the Brain |
| As | Author Presentation |
| Event | CloudCP 2012 |
| Presentation Title | A Performance Evaluation of Azure and Nimbus Clouds for Scientific Applications |
| As | Author Presentation |
| Event | SECRYPT 2009 |
| Presentation Title | Implementing True Random Number Generators in FPGAs by Chip Filling. |
| As | Author Presentation |
| Event | SPL 2008 |
| Presentation Title | FPGA-based Acceleration of the Computations Involved in Transcranial Magnetic Stimulation |
| As | Author Presentation |
| Event | SYNASC 2008 |
| Presentation Title | Software Random Number Generation Based on Race Conditions , |
| As | Author Presentation |

References

Götz-Philip Brasche

web page : <https://www.linkedin.com/pub/g%C3%B6tz-philip-brasche/0/7b/739>

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Gabriel Anoniu

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