

# CURRICULUM VITAE

## *PERSONAL DATA*

**Name:** MUGUREL IONUT ANDREICA  
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## *EDUCATION*

- **October 2006-present:** Ph.D. student at the *Faculty of Automatic Control and Computer Science (Computer Science and Engineering Department)* from the Politehnica University of Bucharest. The courses I followed are: *Peer-to-Peer Systems, Neural Networks, Advanced Database Systems* and *Service Oriented Architecture Systems*. The grades I obtained for all the Ph.D. courses are 10 out of 10.
- **October 2006-February 2008:** M.Sc. at the *Faculty of Automatic Control and Computer Science (Computer Science and Engineering Department)* from the Politehnica University of Bucharest. The main track I chose is *Advanced Systems for Internet Applications*. I graduated with perfect grades. My M.Sc. thesis was entitled *Data Transfer Optimization Techniques*.
- **October 2001-June 2006:** B.Sc. in Computer Science at the *Faculty of Automatic Control and Computer Science (Computer Science and Engineering Department)*, from the Politehnica University of Bucharest. The specialization I chose is *System software* (with courses on *Operating Systems, Compilers Design, Database Design, Parallel and Distributed Computing*). I graduated as valedictorian of the Politehnica University of Bucharest (my average grade for the five years was 10 out of 10). My diploma project was *Message Routing and Message Flow Optimization in Large Scale Distributed Systems* (grade: 10 out of 10).
- **2002-2006:** Bachelor degree in Economics at the Commercial Academy of Satu Mare, Satu Mare, Romania.
- **1997-2001:** “Cantemir-Voda” High School, Bucharest. I graduated as a valedictorian (my average grade was 9.99 out of 10).

## *COMPLEMENTARY COURSES*

- **September 2007:** *Cell Broadband Engine Programming Course*, organized by IBM at the *Faculty of Automatic Control and Computer Science* from the Politehnica University of Bucharest.
- **June 2007:** Intensive Programme on the topic of *Improving the Security Knowledge in ICT*, organized by the EVTEK University of Applied Sciences, Espoo, Finland. It was an international course, with students from 6 countries. My final grade was 5 out of 5.
- **May 2007:** *Oracle Database 10g: Program with PL/SQL*, a course organized by the Oracle University, Bucharest.

- **April 2007:** *Oracle 10g: Build J2EE Applications*, a course organized by the Oracle University, Bucharest.
- **March 2007:** *Multicore Programming*, a course organized by the INTEL Software College Programme at the *Faculty of Automatic Control and Computer Science* from the Politehnica University of Bucharest.
- **September 1999-January 2001:** “Cantemir-Voda” Cisco Networking Academy Courses for pursuing the degree of Cisco Certified Networking Associate.

## ***PROFESSIONAL EXPERIENCE***

- **October 2006-present:** Ph.D. student and teaching assistant at the *Faculty of Automatic Control and Computer Science (Computer Science and Engineering Department)* from the Politehnica University of Bucharest.
- **2004-2006:** software developer for the Cibernetica MC company, Bucharest.
- **2001-2002:** collaborator of Softwin company, Bucharest

## ***SCHOLARSHIPS & GRANTS***

- **2008-2009:** Ph.D. Fellowship granted by IBM
- **2006-2009:** Ph.D. research scholarship granted by Oracle Romania
- **2001-2006:** Performance scholarship granted by the *Faculty of Automatic Control and Computer Science*, Politehnica University of Bucharest (6 semesters out of 10). Merit scholarship in the other 4 semesters.
- **1997-2001:** Merit scholarship granted by the “Cantemir-Voda” High School (8 semesters out of 8).

## ***AWARDS***

- **ACM International Collegiate Programming Contest World Finals**
  - **April 2005:** Bronze Medal at the ACM ICPC World Finals, sponsored by IBM, held in Shanghai, China. 78 teams qualified at the finals from over 4,000 teams competing in regional contests.
  - **April 2005:** 5<sup>th</sup> place at the Parallel Challenge, organized at the ACM ICPC World Finals event. The challenge took place on the IBM Blue Gene Supercomputer.
  - **March 2002:** Honorable Mention (18<sup>th</sup> place) at the ACM ICPC World Finals, sponsored by IBM, Honolulu, Hawaii.
- **ACM International Collegiate Programming Contest: Southeastern European Regional Contest**
  - **October 2004:** 1<sup>st</sup> place at the ACM ICPC South-Eastern European Regional Contest (out of more than 40 teams).
  - **October 2003:** 3<sup>rd</sup> place at the ACM ICPC South-Eastern European Regional Contest (out of more than 40 teams).
  - **October 2001:** 1<sup>st</sup> place at the ACM ICPC South-Eastern European Regional Contest (out of more than 40 teams).

- **International Olympiad in Informatics**
  - **July 2001:** Silver Medal at the International Olympiad in Informatics, Tampere, Finland.
- **“Tuymaada” International Informatics Olympiad**
  - **July 2000:** 1<sup>st</sup> place at the "Tuymaada" International Informatics Olympiad, Yakutsk, Russian Federation.
- **Romanian National Olympiad in Informatics**
  - **2001:** 1<sup>st</sup> prize.
  - **2000:** 3<sup>rd</sup> prize.
  - **1999:** 2<sup>nd</sup> prize.
- **USA Computing Olympiad – International Division**
  - **March 2001:** 1<sup>st</sup> place at the USACO Spring Contest
- **Internet Problem Solving Contest**
  - **May 2002:** 5<sup>th</sup> place at the IPSC programming contest, organized by Comenius University, Slovakia.
- **Agora International Programming Contest**
  - **2001, 2002, 2005:** 1<sup>st</sup> place.
  - **2004:** 3<sup>rd</sup> place.
- **Compaq Cup National Programming Contest**
  - **2001:** 1<sup>st</sup> place
- **Physics Olympiad**
  - **1999:** 1<sup>st</sup> place at the Physics Olympiad of the city of Bucharest.
- **Students Scientific Conference of the Politehnica University of Bucharest**
  - **2004:** Honorable Mention for the paper *A Hardware Implementation of the Fuzzy-Perceptron*.
  - **2002:** Honorable Mention for the paper *Quantum Computers*.

## ***SCIENTIFIC ACTIVITIES***

- **August 2007-2009:** Deputy Leader of the Romanian national delegation at the International Olympiad in Informatics.
- **2005-2009:** Coach of several teams representing Politehnica University of Bucharest at the ACM ICPC Southeastern European Regional Contest (1 team in 2005, 2 teams in 2006 and 2007, 3 teams in 2008-2009).
- **2005-2009:** Organizer of local contests for selecting the teams representing Politehnica University of Bucharest at the ACM ICPC Southeastern European Regional Contest.
- **2002-2009:** Member of the Scientific Committee of the Romanian National Olympiad in Informatics.
- **2002-2009:** Trainer of the members of the Romanian National Informatics Team.

- **July 2003:** Member of the Scientific Committee of the Balkan Olympiad in Informatics, Iasi, Romania.
- **July 2009:** Member of the Scientific Committee of the Central European Olympiad in Informatics, Tirgu-Mures, Romania.

## ***SELECTED PUBLICATIONS***

- **Conference Proceedings**
  - Mugurel Ionut Andreica, Iosif Charles Legrand, Nicolae Tapus, "**Towards a Communication Framework based on Balanced Message Flow Distribution**", *Proceedings of the IEEE International Conference on "Computer as a Tool" (EUROCON)*, pp. 495-500, 2007.
  - Mugurel Ionut Andreica, Nicolae Tapus, "**High Multiplicity Scheduling of File Transfers with Divisible Sizes on Multiple Classes of Paths**", *Proceedings of the 12<sup>th</sup> IEEE International Symposium on Consumer Electronics (ISCE)*, pp. 516-519, 2008.
  - Mugurel Ionut Andreica, Nicolae Tapus, "**Maximum Reliability K-Hop Multicast Strategy in Tree Networks**", *Proceedings of the 12<sup>th</sup> IEEE International Symposium on Consumer Electronics (ISCE)*, pp. 169-172, 2008.
  - Mugurel Ionut Andreica, Nicolae Tapus, "**Efficient Data Structures for Online QoS-Constrained Data Transfer Scheduling**", *Proceedings of the 7<sup>th</sup> IEEE International Symposium on Parallel and Distributed Computing (ISPDC)*, pp. 285-292, 2008.
  - Mugurel Ionut Andreica, Nicolae Tapus, "**Time Slot Groups - A Data Structure for QoS-Constrained Advance Bandwidth Reservation and Admission Control**", *Proceedings of the 10<sup>th</sup> IEEE International Symp. on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC)*, 2008.
  - Mugurel Ionut Andreica, Nicolae Tapus, "**Constrained Content Distribution and Communication Scheduling for Several Restricted Classes of Graphs**", *Proceedings of the 10<sup>th</sup> IEEE International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC)*, 2008.
  - Mugurel Ionut Andreica, Nicolae Tapus, "**Online and Offline Algorithmic Techniques for Communication Performance Optimization in Distributed Systems**", *Proceedings of the 23<sup>rd</sup> IEEE International Parallel & Distributed Processing Symposium (IPDPS)*, 2009.
  - Mugurel Ionut Andreica, Nicolae Tapus, "**Central Placement of Storage Servers in Tree-Like Content Delivery Networks**", *Proceedings of the IEEE International Conference on "Computer as a Tool" (EUROCON)*, 2009.
- **Technical Reports**
  - M. I. Andreica, N. Tapus, A. Iosup, D. H. J. Epema, C. Dumitrescu, I. Raicu, I. Foster, M. Ripeanu, "**Towards ServMark, an Architecture for Testing Grids**", CoreGRID Technical Report 0062, November 2006 (<http://www.coregrid.net/mambo/images/stories/TechnicalReports/tr-0062.pdf>).

A complete list of publications is available online at:

<https://mail.cs.pub.ro/~mugurel.andreica/publications.htm>

## ***PROJECTS***

- **MonALISA:** monitoring framework (<http://monalisa.cern.ch>), written in Java, part of a collaboration between the Politehnica University of Bucharest and CERN (European Center for Nuclear Research) and the California Institute of Technology. My contribution to the project: developing an improved communication infrastructure, based on the peer-to-peer paradigm, to be used by the components forming the monitoring architecture.
- **ServMark:** a Globus service used for testing both Grid systems and services, as well as web servers and services, developed together with researchers from the Technical University of Delft, Netherlands and the University of Chicago, USA. My contribution to the project: enhancing and integrating two existing but complementary testing tools, GrenchMark and DiPerf, designing the architecture of ServMark, generating test scenarios and obtaining the first results of the testing architecture.
- **EU-NCIT:** a project funded by the European Commission as part of the 6<sup>th</sup> Framework Programme, whose purpose is to provide know-how and experience in elaborating and coordinating proposals and projects related to several IST research areas within the Romanian National Center for Information Technology. My contribution to the project: analysis of resources which could bring information useful for raising the quality of future project proposals, elaboration of project proposals and dissemination of results for further usage in similar projects.
- **P2P-Next:** a project funded by the European Commission as part of the 7<sup>th</sup> Framework Programme, whose purpose is to provide a next generation content distribution framework. My contribution to the project: development of new, accurate, non-intrusive, techniques for upload capacity estimation.
- **.campion:** a project funded by the Romanian Ministry of Education and SIVECO Romania, whose purpose is to train high school pupils for the olympiads in informatics. My contribution to the project: composing contest tasks, implementing them and generating relevant test cases to be used within the training program.

## ***COMPUTER SKILLS AND INTERESTS***

- **Programming Languages:** C/C++, Java, Pascal (Delphi), SQL (Oracle Academic Initiative Certificate), Python, Scheme, Haskell, OCaml, Prolog, Clips, Matlab.
- **Parallel and Distributed Programming:** MPI, OpenMP, Sockets programming.
- **Computer Science Interests:**
  - Optimization of Data Communication and Management in Distributed Systems
  - Peer-to-Peer Architectures
  - Parallel and Distributed Systems and Algorithms
  - Graph Theory and Algorithms
  - Multicore Architectures
  - Advanced Data Structures

## ***FOREIGN LANGUAGES***

- **English:** fluent
- **German:** conversational
- **Italian:** conversational