Kleber Vieira Cardoso

Curriculum Vitae

Personal data

Name Kleber Vieira Cardoso.

Name in bibliography citations CARDOSO, K. V.; Cardoso, Kleber; Cardoso, K.V.; Cardoso, Kleber V.; VIEIRA CARDOSO, KLEBER.

Birth information Apr-28-1975 – Anápolis, GO – Brasil.

Professional address Federal University of Goiás (UFG)
Institute of Informatics (INF), UFG – Campus II, room 217
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Formal education/Degree

2005 - 2009 D.Sc. in Electrical Engineering.
Federal University of Rio de Janeiro, UFRJ, Brasil. Year of degree: 2009.
Thesis' title: Automatic Rate Adaptation in IEEE 802.11 Networks.
Advisor: José Ferreira de Rezende.
Grantee of: FAPERJ – Carlos Chagas Filho Foundation for Research Support of the State of Rio de Janeiro, Brasil.
Keywords: IEEE 802.11 networks, packet loss, automatic rate adaptation.
Major Area: Exact and Earth Sciences / Area: Computer Science / Subarea: Computer Networks / Specialty: Wireless Networks.

2000 - 2002 M.Sc. in Electrical Engineering.
Federal University of Rio de Janeiro, UFRJ, Brasil. Year of degree: 2002.
Dissertation's title: HTTP Traffic Modeling: Development and Application.
Advisor: José Ferreira de Rezende.
Grantee of: CAPES – Coordination for the Improvement of Higher Education Personnel.
Keywords: high speed networks, quality of service, Internet, performance evaluation, DiffServ, HTTP traffic.
Major Area: Exact and Earth Sciences / Area: Computer Science / Subarea: Computer Networks.

1994 - 1997 Bachelor in Computer Science.
Federal University of Goiás, UFG, Brasil. Year of degree: 1997.
Undergraduate final project's title: Perspectives on Mobility in the Internet: Introduction to State of the Art.
Advisor: Fouad Joseph Georges.
Keywords: Mobile IP, L2TP, Internet.
Major Area: Exact and Earth Sciences / Area: Computer Science / Subarea: Computer Networks.

1990 - 1993 Professional/Technical Course in Telecommunications.
Federal Technical School of Goiás, ETFGO, Brasil.

Professional experience

1. Federal University of Goiás – UFG

Contract

2009 – Present Type of contract: government employee, functional placement: professor, credit hours: 40, exclusive dedication.

Activities

08/2013 - 12/2013 Teaching, Computer Science, degree: undergraduate.
Disciplines taught: Computer Networks 2.

08/2013 - 12/2013 Teaching, Computer Science, degree: graduate.
Disciplines taught: Analysis and Modeling of Computing Systems.

06/2013 - Present Manager and administrative positions, Institute of Informatics (INF).
Position or function: general coordinator of the INF's ICT service center (NRC).

02/2013 - 07/2013 Teaching, Computer Science, degree: undergraduate.
Disciplines taught: Computer Networks 2.

03/2012 - 07/2012 Teaching, Computer Science, degree: graduate.
Disciplines taught: Topics of Future Internet.

11/2011 - 08/2013 Manager and administrative positions, Institute of Informatics (INF).
Position or function: graduate program coordinator.

08/2011 - 12/2011 Teaching, Computer Science, degree: undergraduate.
Disciplines taught: Computer Networks 1, Computer Networks 2.

08/2011 - 12/2011 Teaching, Computer Science, degree: graduate.
Disciplines taught: Seminars 1.

03/2011 - 06/2011 Teaching, Computer Science, degree: graduate.
Disciplines taught: Seminars 1.

02/2011 - 06/2011 Teaching, Information Systems, degree: undergraduate.
Disciplines taught: Operating Systems.

02/2011 - 06/2011 Teaching, Computer Science, degree: undergraduate.
Disciplines taught: Computer Networks 1.

08/2010 - 12/2010 Teaching, Computer Science, degree: graduate.
Disciplines taught: Topics on Wireless Networks.

05/2010 - 12/2010 Councils, commissions and consulting, UFG's ICT service center (CERCOMP).
Position or function: chairman of the steering committee of the metropolitan area network (MetroGyn – REDECOMEP Goiânia).

02/2010 - 06/2010 Teaching, Computer Science, degree: undergraduate.
Disciplines taught: Operating Systems 1.

02/2010 - 06/2010 Teaching, Information Systems, degree: undergraduate.
Disciplines taught: Operating Systems.

10/2009 - 10/2009 Teaching, Computer Networks and Security, degree: graduate specialization.
Disciplines taught: High-speed Networks.

08/2009 - 12/2009 Teaching, Information Systems, degree: undergraduate.
Disciplines taught: Imperative Programming.

08/2009 - 12/2009 Teaching, Computer Science, degree: undergraduate.
Disciplines taught: Introduction to Computer Science, Entrepreneurship.

06/2009 - 08/2013 Councils, commissions and consulting, UFG's ICT service center (CERCOMP).
Position or function: chairman of the technical committee on wireless network.

04/2009 - 10/2009 Teaching, Computer Networks and Security, degree: graduate specialization.
Disciplines taught: High-speed Networks, TCP/IP Architecture.

2. Pontifical Catholic University of Goiás – PUC GOIÁS

Contract

2003 - 2003 Type of contract: temporary, functional placement: visiting professor, credit hours: 12.

1999 - 2000 Type of contract: temporary, functional placement: visiting professor, credit hours: 8.

Activities

03/2003 - 12/2003 Teaching, Computer Engineering, degree: undergraduate.
Disciplines taught: Corporate Networks, Communications Systems, Teleprocessing and Networks 2.

09/1999 - 02/2000 Teaching, Computer Science, degree: undergraduate.
Disciplines taught: Operating Systems 2.

3. Ápice Telemática Ltda – ÁPICE

Contract

1997 - 1999 Type of contract: partial owner, functional placement: director, credit hours: 40.

Activities

07/1998 - 12/1999 Research and development, UFG.
Jobs accomplished: investigation, deployment and evaluation of software related to perspectives of quality of service (QoS) in the Internet, involving Video on Demand (VoD) application, IntServ and DiffServ architectures, and ATM hardware.

08/1997 - 12/1999 Specialized technical services, business customers.
Jobs accomplished: design, deployment, and maintenance of corporate networks.

08/1997 - 12/1999 Manager and administrative positions, headquarter.
Jobs accomplished: business management tasks.

4. Salgado de Oliveira College – UNIVERSO

Contract

2003 - 2004 Type of contract: formal, functional placement: professor, credit hours: 16.

Activities

02/2003 - 12/2004 Teaching, Technology in Internet and Computer Networks, degree: undergraduate.
Disciplines taught: Introduction to Computer Networks, Management of Network Services, Computer Networks Applications, Network Operating Systems.

Scientific journal referee

1. **2012 – 2013 Journal of The Brazilian Computer Society (Online).**
2. **2011 – 2013 Ad Hoc Networks.**
3. **2009 – 2011 IEEE Communications Letters (Print).**
4. **2009 – 2010 Wireless Communications and Mobile Computing (Eletronic).**

Research projects

2013 - Present **Title:** GT-ATER (Data Transport Acceleration by Employing Dynamic Circuit Networks) – phase 2.
Description: in the first phase, the project completed the development of a fully functional prototype. In this prototype, the user is able to define effective or monitoring rules, which allow forwarding traffic through dynamic circuits or just monitor the data flows, respectively. Every user interaction with the ATER prototype can be accomplished through a simple Web interface that allows adding rules, removing rules, and statistics monitoring. As an administrator, a user can also configure and manage the whole ATER service, performing activities such as account creation, approval and verification procedures of other components of the service – the RACEs. In addition to the Web interface, ATER service also offers a REST API. In this second phase, the project has two main goals: perform tests with pilot users in the experimental network available in the Brazilian NREN, and evolve the prototype to make it more robust and scalable.
My role: coordinator.
Participant Students: undergraduate (3) / M.Sc. (2).

Sponsor: Brazilian National Research and Education Network (NREN) – RNP.
Budget: R$ 170,800.

2013 - Present **Title:** Nuvem Verde (Green Cloud): A Platform to Support Rational Use of Energy in Cloud Systems.
Description: this project aims to develop a basic software platform for control, monitoring, and management of cloud computing services with emphasis on energy savings. The aim is to explore the features of control, management, and monitoring of the OMF (Control and Management Framework) to make more efficient use of electrical energy consumed by large computer centers. In this context, the project aims to monitor the demand for computing resources involved, not just computers themselves, but also other equipment such as routers and switches. Furthermore, we intend to monitor energy consumption by these and other related equipment, such as lighting system and cooling system. As computer systems are sensitive to temperature and humidity, we also plan to monitor these environmental conditions.
My role: coordinator.
Participant Students: undergraduate (3) / M.Sc. (4).
Sponsor: Foundation for Research Support of the State of Goiás – FAPEG.
Budget: R$ 69,580.

2012 - 2013 **Title:** GT-ATER (Data Transport Acceleration by Employing Dynamic Circuit Networks).
Description: In National Research and Education Networks (NRENs) such as APAN, Internet2, ESnet, GÉANT, CLARA and RNP (in Brazil), is increasing the need to transport large volumes of data reliably and efficiently. On the other hand, it is well known the difficulty of TCP to follow the expansion of networks capacity, especially due to the high values of the bandwidth-delay product (BDP). One approach to improve the performance of TCP in high-capacity networks is creating dynamic circuits. Dynamic circuits can be used as shortcuts within the network, where the BDP can be reduced by removing part of the queuing delays. This project aims to develop and deploy a service to identify packet flows carrying large amounts of data and create dynamic circuits to send them. The focus is to develop a new service for RNP users who need to transfer large volumes of data.
My role: coordinator.
Participant Students: undergraduate (4) / M.Sc. (1) / D.Sc. (1).
Sponsor: Brazilian National Research and Education Network (NREN) – RNP.
Budget: R$ 154,996.

2011 - Present **Title:** FIBRE - Future Internet testbeds experimentation Between Brazil and Europe.
Description: The main goal of the FIBRE project is the design, implementation and validation of a shared Future Internet research facility, supporting the joint experimentation of European and Brazilian researchers. In order to achieve this goal the project will carry out four main activities: 1) The development and operation of a new experimental facility in Brazil, including the setup of equipment to support experimentation with various technologies (fixed layer 2 and layer 3, wireless, optical) as well as the design and implementation of a control framework to automate the use and operation of the testbed. 2) The development and operation of a Future Internet facility in Europe based on enhancements and the federation of two existing infrastructures: OFELIA and OneLab. Two OFELIA islands (i2CAT and University of Bristol (UNIVBRIS)) and the UTH's NITOS testbed will be enhanced by i) adding more physical resources (servers, OpenFlow-enabled switches and access points) to be able to cope with a bigger number of users and different use cases, ii) improving its respective control frameworks (based on the OFELIA control framework and OMF) and iii) adding more manpower to operate the facilities. 3) The federation of the Brazilian and European experimental facilities, both at the physical connectivity and control framework level, to support the provisioning of slices using resources from both testbeds. 4) The design and implementation of pilot applications of public utility that showcase the power of a shared Europe-Brazil Future Internet experimental facility.
My role: researcher and local coordinator at UFG.
Participant Students: undergraduate (9) / M.Sc. (13) / D.Sc. (5).
Sponsor: National Council for Scientific and Technological Development – CNPq.
Whole budget: R$ 2,300,000. **Local budget for UFG:** R$ 248,065.

2010 - 2013 **Title:** CGTravel – Grid Computing with High Speed Transport.

Description: the project aims to develop a framework to allow integration between distributed processing systems, particularly computational grids, and a prototype service of high speed, available in the RNP.
My role: coordinator.
Participant Students: undergraduate (2) / M.Sc. (1).
Sponsor: Foundation for Research Support of the State of Goiás – FAPEG.
Budget: R$ 41,800.

2009 - 2011 **Title:** Cognition, Virtualization and Scalability in Wireless Networks (CoVER).
Description: in the general context of wireless networks will be studied, evaluated and proposed mechanisms of flooding, link scheduling, and multipath routing for mobile ad hoc networks. In 802.11 networks, there is interest in addressing topics such as dynamic channel selection in independent networks, large number of stations, virtualization of network interface for load balancing, etc. In the context of cognitive radios, problems related to the dynamic spectrum management will be addressed.
My role: researcher and local coordinator at UFG.
Participant Students: undergraduate (7) / M.Sc. (3) / D.Sc. (5).
Sponsor: National Council for Scientific and Technological Development – CNPq.
Whole budget: R$ 50,000. **Local budget for UFG:** R$ 15,000.

2007 - 2009 **Title:** GT-Travel (High Speed Transport).
Description: this project aims to develop and deploy a reliable data transport service that makes maximum use of available capacity on the network. To provide the service, TCP connections end-to-end will be divided into two or more TCP connections arranged in series, forming an end-to-end higher-level connection. The creation and maintenance of these connections must be performed by an overlay network (overlay) the RNP backbone. The use of intermediate storage between connections and choice for certain connections, protocols specially designed to achieve high speeds are among the tasks of the overlay network. Thus, the proposed service will improve efficiency in the use of both high-capacity links as the links with highly variable as its access network loss rates.
My role: researcher.
Participant Students: undergraduate (4) / M.Sc. (2) / D.Sc. (3).
Sponsor: Brazilian National Research and Education Network (NREN) – RNP.

2005 - 2006 **Title:** InterTV (Return Channel of the SBTvD).
Description: this project, funded by the Ministry of Communications through FINEP, aims at developing solutions that provide the user of the Brazilian Digital Television System (SBTvD) a return channel implemented as a low cost network, technically feasible, easy to deployment, and robust. Besides, the network must also be able to offer a minimum quality to every user. Two types of solutions are studied: one in-band and other ad hoc.
My role: researcher.
Participant Students: M.Sc. (5) / D.Sc. (2).
Sponsor: Studies and Projects Financing Agency – FINEP.

2005 - 2006 **Title:** RADHIOS.
Description: the objective of this project is to study, design, and evaluate the performance of protocols and mechanisms related to security, directive antennas, power control, and QoS for Wi-Fi networks.
My role: researcher.
Participant Students: undergraduate (3) / M.Sc. (2) / D.Sc. (2).
Sponsor: National Council for Scientific and Technological Development – CNPq.

2002 - 2002 **Title:** QUARESMA.
Description: the Internet can not meet, with quality, some applications that require certain types of requirements. Thus, new architectures that allow delivering quality of service have been proposed. The new proposals include several aspects such as the guarantee of certain communication requirements, multicast communication, security, mobility, etc. These proposals involve investigation of new services, protocols, models, mechanisms, etc.
My role: researcher.
Participant Students: undergraduate (5) / M.Sc. (6) / D.Sc. (4).
Sponsor: National Council for Scientific and Technological Development – CNPq.

1998 - 1999 **Title:** Metropolitan Area High-speed Networks (REMAV)
Description: deployment of an ATM Network in the Metropolitan Area of Goiânia in order to support multimedia applications and GIS.
My role: researcher.
Sponsor: Brazilian National Research and Education Network (NREN) – RNP.

Awards and Titles

2013 Second best paper by the work entitled "*An Approach Based on CPU and RAM Consumption for Energy Efficiency in Data Centers for Cloud Computing*", in the XIV Symposium in Computer Systems (WSCAD-SSC).

2008 Honorable mention for the paper entitled "*Automatic Rate Adaptation in Dense 802.11 Networks*", in XXVI Brazilian Symposium on Computer Networks (SBRC).

2007 – 2009 Scholarship grade 10 for D.Sc. candidate, FAPERJ – Carlos Chagas Filho Foundation for Research Support of the State of Rio de Janeiro.

2006 – 2007 Scholarship for D.Sc. candidate, National Council for Scientific and Technological Development – CNPq.

2002 IEEE student travel grant – by paper published in ICC 2002, New York.

2000 – 2002 Scholarship for M.Sc. candidate, grantee of CAPES – Coordination for the Improvement of Higher Education Personnel.

Bibliographical production

Articles in scientific journals

1. AMERICO GUEDES, DIEGO; ZIVIANI, ARTUR; **VIEIRA CARDOSO, KLEBER**. "*Dynamic Labeling in Wireless Mesh Networks*". Latin America Transactions, v.11, p. 948 - 954, 2013. DOI: 10.1109/TLA.2013.6568838. (text in Portuguese)

2. ABELEM, ANTONIO; STANTON, MICHAEL; MACHADO, IARA; SALVADOR, MARCOS; MAGALHAES, LUIZ; FERNANDES, NATALIA; CORREA, Sand; **Cardoso, Kleber**; MARCONDES, CESAR; MARTINS, JOBERTO; MONTIERO, JOES; CARVALHO, TEREZA; REZENDE, JOSE. "*FIT@BR - a Future Internet Testbed in Brazil*". Proceedings of the Asia-Pacific Advanced Network, v. 36, p. 1 - 8, 2013. DOI: 10.7125/APAN.36.1.

3. **Cardoso, Kleber V.**; Rezende, José F. "*Increasing throughput in dense 802.11 networks by automatic rate adaptation improvement*". Wireless Networks, v.18, p. 95 - 112, 2012. DOI: 10.1007/s11276-011-0389-9.

4. **Cardoso, K. V.**; De Rezende, J. F. "*Accurate hidden Markov modeling of packet losses in indoor 802.11 networks*". IEEE Communications Letters (Print), v.13, p. 417 - 419, 2009. DOI:10.1109/lcomm.2009.082008.

Book chapters

1. SILVESTRE, B. O.; **CARDOSO, K. V.**; CORREA, Sand. "*Control and Monitoring of Experiments for the Future Internet Employing OMF*". In: textbook of short courses of the XXX Brazilian Symposium on Telecommunications (SBrT), 2012, p. 1-34. (text in Portuguese)

2. MARCONDES, C. A. C.; MARTINS, J.; MONTEIRO, J. A. S.; **CARDOSO, K. V.;** ABELÉM, A. J. G.; NASCIMENTO, V.; MACHADO, I.; CARVALHO, T. C. M. B.; MIERS, C. C.; SALVADOR, M.; ROTHENBERG, C. E. "State-of-Art of Control and Monitoring Systems of Infrastructures for Experimentation of Communication Networks". In: textbook of short courses of the XXX Brazilian Symposium on Computer Networks (SBRC), 2012, p. 99-159. (text in Portuguese)

Complete works published in proceedings of conferences

1. SILVA, O. J. A. P.; CORREA, Sand; SACRAMENTO, V.; **CARDOSO, K. V.** "*An Approach Based on Partial Correlation for Filtering of Monitored Metrics in Self-Manageable Systems*". In: 4th Workshop on Autonomic Distributed Systems – WoSiDA, 2014, Florianópolis. (text in Portuguese)

2. MELLO, M. O. M. C.; ALCANTARA, C. S.; SILVA, B. S.; CRUZ, M. A.; CORREA, Sand; **CARDOSO, K. V.** "*Automatic Creation of Dynamic Circuits in Hybrid Networks Employing Traffic Filtering Rules*". In: XXXII Brazilian Symposium on Computer Networks (SBRC), 2014, Florianópolis. (text in Portuguese)

3. CRUZ, M. A.; SILVA, L. C. E.; CORREA, Sand; **Cardoso, K. V.** "*Accurate Online Detection of Bidimensional Hierarchical Heavy Hitters in Software-Defined Networks*". In: IEEE 5th Latin-American Conference on Communications (LATINCOM), 2013, Santiago.

4. BARBOSA, C. S.; BORGES, V. C. M.; CORREA, Sand; **CARDOSO, K. V.** "*An Evolution-Inspired Algorithm for Efficient Dynamic Spectrum Selection*". In: 27th International Conference on Information Networking (ICOIN), 2013, Bangkok.

5. CRUZ, M. A.; CORREA, Sand; **Cardoso, K. V.** "*Detection of Bidimensional Hierarchical Heavy Hitters in OpenFlow Networks*". In: IV Workshop of Experimental Research on Future Internet (WPEIF), 2013, Brasília.

6. CASTRO, P. H. P.; CORREA, Sand; **Cardoso, K. V.** "An Approach Based on CPU and RAM Consumption for Energy Efficiency in Data Centers for Cloud Computing". In: XIV Symposium in Computer Systems (WSCAD-SSC), 2013, Porto de Galinhas. (text in Portuguese)

7. GUEDES, D. A.; SILVA, E. S.; ZIVIANI, A.; **CARDOSO, K. V.** "*Dynamic Labeling in Wireless Mesh Networks*". In: 4th IEEE Latin-American Conference on Communications (LATINCOM), 2012, Cuenca.

8. BARBOSA, C. S.; CORREA, Sand; SALVINI, R.; **CARDOSO, K. V.** "*An Evolutionary Strategy for Dynamic Spectrum Selection*". In: II Workshop on Broadband Access Networks (WRA), 2012, Ouro Preto. (text in Portuguese)

9. GUEDES, D. A.; SILVA, E. S.; **CARDOSO, K. V.** "*A Metric for Dynamic Ranking of Nodes in Community Wireless Networks*". In: XXX Brazilian Symposium on Telecommunications (SBrT), 2012, Brasília. (text in Portuguese)

10. MEIRELLES, A. L. S.; **CARDOSO, K. V.**; de REZENDE, J. F. "*A Strategy to Improve Sensing Accuracy of Energy Detection for Distributed Spectrum Management Systems*". In: 7th Latin American Network Operations and Management Symposium (LANOMS), 2011, Quito.

11. DUARTE JR., E. P.; **CARDOSO, K. V.**; MELLO, M. O. M. C.; BORGES, J. G. G. "*Transparent Communications for Applications Behind NAT/Firewall over Any Transport Protocol*". In: 2011 International Workshop on Network & Systems Security, 2011, Tainan.

12. DE OLIVEIRA, T. M.; DA SILVA, M. W. R.; **CARDOSO, K. V.**; de REZENDE, J. F. "*Virtualization for Load Balancing on IEEE 802.11 Networks*". In: 7th International ICST Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous 2010), 2010, Sydney.

13. DE OLIVEIRA, T. M.; DA SILVA, M. W. R.; **CARDOSO, K. V.**; de REZENDE, J. F. "*Multiple Association and Load Balacing Using Virtualization in IEEE 802.11 Networks*". In: XXVII Brazilian Symposium on Computer Networks (SBRC), 2009, Recife. (text in Portuguese)

14. AUGUSTO, C. H. P.; DA SILVA, M. W. R.; **CARDOSO, K. V.**; MENDES, A.C.; GUEDES, R. M.; de REZENDE, J. F. "*Implementation and Evaluation of Concatenated TCP Connections in Networks with Large Memory and High Loss*". In: XXVII Brazilian Symposium on Computer Networks (SBRC), 2009, Recife. (text in Portuguese)

15. **CARDOSO, K. V.**; de REZENDE, J. F. "*Automatic Rate Adaptation in Dense 802.11 Networks*". In: XXVI Brazilian Symposium on Computer Networks (SBRC), 2008, Rio de Janeiro. (text in Portuguese)

16. DA SILVA, M. W. R.; **CARDOSO, K. V.**; MOURA, D. F. C.; GALDINO, J.; SALLES, R.; de REZENDE, J. F. "*Evaluation of the Spectrum Sharing in Cognitive Networks Using Evolutionary Games*". In: XXVI Brazilian Symposium on Telecommunications (SBrT), 2008, Rio de Janeiro. (text in Portuguese)

17. AUGUSTO, C. H. P.; DA SILVA, M. W. R.; **CARDOSO, K. V.**; MENDES, A.C.; GUEDES, R. M.; de REZENDE, J. F. "*Segmentation of TCP Connection for End-to-End Transfer in High Speed*". In: VII

Workshop on Performance in Computer and Communication Systems (WPerformance), 2008, Belém. (text in Portuguese)

18. VILELA, U. C.; **CARDOSO, K. V.**; de REZENDE, J. F. "*802.11 Networks in Urban Centers: Scan, Statistics, and Applications*". In: VI Workshop on Performance in Computer and Communication Systems (WPerformance), 2007, Rio de Janeiro. (text in Portuguese)

19. **CARDOSO, K. V.**; de REZENDE, J. F. "*A Hidden Markov Model for Representing the Packet Loss in 802.11 Networks in Indoor Environments*". In: VI Workshop on Performance in Computer and Communication Systems (WPerformance), 2007, Rio de Janeiro. (text in Portuguese)

20. MORAES, I. M.; BICUDO, M. D.; **CARDOSO, K. V.**; VASCONCELLOS, S. V.; de REZENDE, J. F.; BANDEIRA, O. C. M. "*Development of a Testbed to Support Quality of Service for Digital Video Broadcasting*". In: IV RNP2 Workshop, 2003, Natal. (text in Portuguese)

21. **CARDOSO, K. V**.; de REZENDE, J. F. "*HTTP Traffic Modeling: Development and Application*". In: 2002 IEEE International Telecommunications Symposium, 2002, Natal.

22. **CARDOSO, K. V.**; de REZENDE, J. F.; FONSECA, N. L. S. "*On the Effectiveness of Push-out Mechanisms for the Discard of TCP Packets*". In: IEEE International Conference on Communications (ICC), 2002, New York.

23. **CARDOSO, K. V.**; VASCONCELLOS, S. V.; de REZENDE, J. F.; FONSECA, N. L. S. "*Evaluating Push-out Strategies in the Selective Packet Drop of Short and Long Term TCP Traffic*". In: XIX Brazilian Symposium on Computer Networks (SBRC), 2001, Florianópolis. (text in Portuguese)

24. VIANA, A. C.; JUKEMURA, A. S.; XAVIER, D. A.; **CARDOSO, K. V.** "*Perspectives on Quality of Service in the Internet Protocols – Case Study: Video On Demand Application*". In: II RNP2 Workshop, 2000, Belo Horizonte. (text in Portuguese)

Academic advisory

On going (all in Portuguese)

Master's dissertation

1. Micael Oliveira Massula Carvalho de Mello. **Loading Balance in Wireless Mesh Networks**. Started at: 2013. Computer Science. Institute of Informatics, Federal University of Goiás.

2. Vinícius Gonçalves Braga. **Modeling the Performance of a Big Data Platform in the Context of GIS Applications**. Started at: 2013. Computer Science. Institute of Informatics, Federal University of Goiás.

3. Mário Augusto da Cruz. **Online Detection of Bidimensional Hierarchical Heavy Hitters in OpenFlow Networks**. Started at: 2012. Computer Science. Institute of Informatics, Federal University of Goiás.

4. Otto Julio Ahlert Pinno da Silva. **Reducing the Number of Math Models Employed in the Monitoring of Complex Computer Systems**. Started at: 2012. Computer Science. Institute of Informatics, Federal University of Goiás.

5. Pedro Henrique Pires de Castro. **A Joint CPU-RAM Energy Efficient and SLA Compliance Approach for Cloud Data Centers**. Started at: 2012. Computer Science. Institute of Informatics, Federal University of Goiás.

Scientific initiation

1. Vivian Laís Silva Barreto. **Study and Deployment of a Tool for Control and Monitoring of Infrastructures for Cloud Computing Systems**. Started at: 2013.

Concluded (all in Portuguese)

Master's dissertation

1. Camila Soares Barbosa. **Algorithms Based on Evolutionary Strategies for Dynamic Spectrum Selection in Cognitive Radios**. 2013. Computer Science. Institute of Informatics, Federal University of Goiás.

2. Diego Américo Guedes. **Dynamic Ranking of Nodes in Wireless Mesh Networks**. 2013. Computer Science. Institute of Informatics, Federal University of Goiás.

3. André Lauar Sampaio Meirelles. **Strategies to Increase the Accuracy of the Spectrum Sensing Based on Energy Sensor**. 2012. Computer Science. Institute of Informatics, Federal University of Goiás.

Monograph of completion for improvement/specialization

1. Cleiton Paiva Aquino. **Study on Loading Balance in Infrastructure 802.11 Networks**. 2011. Computer Networks and Security. Institute of Informatics, Federal University of Goiás.

Work of completion for undergraduate course

1. Vinícius Bulhões da Silva Lima. **Acceleration of data transport through a solution based on intermediate equipments**. 2013. Course: Computer Science. Federal University of Goiás.

2. Micael Oliveira Massula Carvalho de Mello. **Study on remote experimentation infrastructure with support for mobile equipments**. 2012. Course: Information Systems. Federal University of Goiás.

3. Gabriel Andrade de Almeida. **Study on optimization techniques for choosing channels in networks with opportunistic spectrum access**. 2012. Course: Computer Science. Federal University of Goiás.

4. Pedro Henrique Pires de Castro. **Scheduling of tests in remote experimentation environments for wireless networks**. 2011. Course: Computer Science. Federal University of Goiás.

5. Lupércio Augusto Germano de Souza. **Study on metrics for evaluation of spectrum sensing in cognitive radio networks**. 2010. Course: Computer Science. Federal University of Goiás.

6. Carlos Fernandes da Silva Filho. **Integration of the protocol for data transfer among grids (GRIDFTP) with the RNP's service for high-speed transport (TRAVEL)**. 2010. Course: Computer Science. Federal University of Goiás.

7. Diego Américo Guedes. **Nanonetworks: study and implementation of a simulation framework for molecular communication channels**. 2010. Course: Computer Science. Federal University of Goiás.

Scientific initiation

1. Vinícius Bulhões da Silva Lima. **Acceleration of data transport through a solution based on intermediate equipments**. 2013.

2. Micael Oliveira Massula Carvalho de Mello. **Study on remote experimentation infrastructure with support for mobile equipments**. 2012.

3. Gabriel Andrade de Almeida. **Study on optimization techniques for choosing channels in networks with opportunistic spectrum access**. 2012.

4. Pedro Henrique Pires de Castro. **Scheduling of tests in remote experimentation environments for wireless networks**. 2011.

Boards

Participation in course completion works examination boards (all in Portuguese)

Master's dissertation

1. SACRAMENTO, V.; **CARDOSO, K. V.**; DAVIS JUNIOR, C. A. Participation in board of Anderson Rogério Cunha. **Distributed Processing of the Multi-way Spatial Join**, 2014. Computer Science. Federal University of Goiás.

2. **CARDOSO, K. V.**; CORREA, Sand; SANTOS, A. L.; CAMILO JUNIOR, C. G. Participation in board of Camila Soares Barbosa. **Algorithms Based on Evolutionary Strategies for Dynamic Spectrum Selection in Cognitive Radios**, 2013. Computer Science. Federal University of Goiás.

3. VIEIRA, F. H. T.; **CARDOSO, K. V.**; LEMOS, R. P. Participation in board of Bruno Henrique Pereira Gonçalves. **Dynamic Allocation of Resources in Multiuser OFDM Networks Based on Effective Band**, 2013. Electrical and Computer Engineering. Federal University of Goiás.

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D.Sc. qualification

1. CERQUEIRA, E. C.; ABELÉM, A. J. G.; CARDOSO, D. L.; MONTEIRO, D. C.; **CARDOSO, K. V.** Participation in board of Vagner de Brito Nascimento. **New Abaré: A Framework for Coordinated and Autonomous Deployment, Monitoring, and Management for Software Defined Multi-hop Networks**, 2013. Electrical Engineering. Federal University of Pará.

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1. **CARDOSO, K. V.**; COSTA, F. M.; SILVESTRE, B. O. Participation in board of Cleiton Paiva Aquino. **Study on Loading Balance in Infrastructure 802.11 Networks**. 2011. Computer Networks and Security. Federal University of Goiás.

2. GEORGES, F. J.; **CARDOSO, K. V.** Participation in board of Gustavo Pacheco et al. **Security in Corporate Environments**, 2004. Computer Networks. Salgado de Oliveira College – Goiânia Campus.

3. SILVEIRA, L. M.; GEORGES, F. J.; **CARDOSO, K. V.** Participation in board of Dinoildo Alves Barroso et al. **Intrusion Detection Systems**, 2004. Computer Networks. Salgado de Oliveira College – Goiânia Campus.

Undergraduate course's conclusion work

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