Bruno Pereira dos Santos

He holds a B.S. in Computer Science from Universidade Estadual de Santa Cruz - UESC (2013), a Master degree in Computer Science from Universidade Federal de Minas Gerais - UFMG (2015), and now He is a Ph.D. candidate in Computer Science from UFMG (2019). Currently, he is a Professor at UFOP. His main research interest areas are Mobile computing, Ubiquitous computing, Computer Networks, Internet of Things (IoT), Wireless Sensor Networks (WSN), Software Defined Networks (SDN), 5G Networks, Distributed systems/algorithms, Parallel computing/programming, Cyber-physical systems, software, and tools.
(Text informed by the author)

Last updated 02/12/2019

12/02/2019

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Personal Information

Name	Bruno Pereira dos Santos
Bibliographic Citation	SANTOS, B. P.;Pereira, B.;Bruno P. S.;SANTOS, BRUNO PEREIRA;SANTOS, BRUNO P.;Pereira, Bruno;Perreira, Bruno
Professional Address	Universidade Federal de Minas Gerais, Instituto de Ciências Exatas, Departamento de Ciência da Computação. Av. Antônio Carlos 6627 - Prédio do ICEx Pampulha 45674999 - Belo Horizonte, MG - Brasil - Caixa-Postal: 31270010 Phone: (031) 34095860 Website URL: http://www.dcc.ufmg.br/pos/

Formal Education/Degree

2015
Ph.D. in progress in Ciências da Computação .
Universidade Federal de Minas Gerais, UFMG, Brasil. *Advisor:* Antonio Alfredo Ferreira Loureiro.
Grantee of: Coordenação de Aperfeiçoamento de Pessoal de Nível Superior ,CAPES ,Brasil .

2013 - 2015
Master´s in Ciências da Computação .
Universidade Federal de Minas Gerais, UFMG, Brasil. *Year of degree:* 2015.
Advisor: Luiz Filipe Menezes Vieira.
Grantee of: Conselho Nacional de Desenvolvimento Científico e Tecnológico ,CNPq ,Brasil .
Keywords: Redes de Sensores Sem Fio; Centralidade; Roteamento; Comunicação sem fio.
Major Area: Exact and Earth Sciences.
Major Area: Exact and Earth Sciences / *Área:* Computer Science / *Subarea:* Protocolos de comunicação.

2009 - 2012
Graduation in Ciência da Computação .
Universidade Estadual de Santa Cruz, UESC, Brasil.
Advisor: Dany Sanchez Dominguez.
Grantee of: Conselho Nacional de Desenvolvimento Científico e Tecnológico ,CNPq ,Brasil .

Complementary Education

2015 - 2015
Quarta Escola de verão em Computação. (Credit Hours: 23h).
Universidade Federal de Minas Gerais, UFMG, Brasil.

2012 - 2012
Gerenciamento Ágil de Projetos com SCRUM. (Credit Hours: 4h).
Universidade Federal do Vale do São Francisco, UNIVASF, Brasil.

2012 - 2012
Mineração de Textos.
Universidade Federal do Vale do São Francisco, UNIVASF, Brasil.

2012 - 2012
18º Seminário de Iniciação Científica. (Credit Hours: 24h).

           Universidade Estadual de Santa Cruz, UESC, Brasil.

2011 - 2011   17º Seminário de Iniciação Científica. (Credit Hours: 24h).
Universidade Estadual de Santa Cruz, UESC, Brasil.

2010 - 2010   PGDay PostgreeSQL. (Credit Hours: 8h).
Universidade Estadual de Santa Cruz, UESC, Brasil.

2010 - 2010   16º Seminário de Iniciação Científica. (Credit Hours: 24h).
Universidade Estadual de Santa Cruz, UESC, Brasil.

2009 - 2009   VIII semana de matemática da UESC. (Credit Hours: 28h).
Universidade Estadual de Santa Cruz, UESC, Brasil.

2009 - 2009   PROGRAMAÇÃO WEB COM PHP E MYSQL. (Credit Hours: 8h).
Universidade Estadual de Santa Cruz, UESC, Brasil.

2006 - 2006   Continuing education in Construção do conhecimento no curso de PA e PG. (Credit hours: 18h).
Universidade Estadual do Sudoeste da Bahia, UESB, Brasil.

2006 - 2006   Continuing education in Construção do conhecimento no curso de geometria. (Credit hours: 18h).
Universidade Estadual do Sudoeste da Bahia, UESB, Brasil.

Professional Experience

Universidade Federal de Minas Gerais, UFMG, Brasil.

     Contract

2015 - Present   Type of contract: Bolsista, Functional Placement: , Credit Hours: 40, Exclusive Dedication.

     Contract

2013 - 2015   Type of contract: Bolsista, Functional Placement: , Credit Hours: 40, Exclusive Dedication.

     Activities

2018 - Present   Project participation activities, Centro de Computação, .

     Research Projects
AR: Algoritmos de Roteamento para redes aquaticas
MAE: Modelos, Algoritmos e Experimentos para Redes Sem Fio

2017 - Present   Project participation activities, Centro de Computação, .

     Research Projects
Leveraging Human Behavior and Uncertainty in 5G Networks to Build Robust Resource Allocation and
Services Orchestration Models (Embrace)
Projeto de Serviços e Aplicações para IoT

07/2016 - 12/2016   Teaching, Ciência da Computação, Degree: Graduation.

     Disciplines Taught
Redes de Computadores

03/2014 - 07/2014   Teaching, Ciência da Computação, Degree: Graduation.

     Disciplines Taught
Redes de Computadores

Instituto Federal Minas Gerais, IFMG, Brasil.

     Contract

2015 - 2015   Type of contract: Professor Pesquisador, Functional Placement:

     Activities

03/2015 - 07/2015   Teaching, Computação, Degree: Graduation.

     Disciplines Taught
Fundamentos da Informática e Arquitetura de Computadores

Universidade Estadual de Santa Cruz, UESC, Brasil.

Contract

2010 - 2010	Type of contract: Programa de estágio, Functional Placement: , Credit Hours: 5

Activities

2012 - 2013	Project participation activities, Conselho Superior de Ensino, Pesquisa e Extensão, .

Research Projects
Uso de processamento paralelo com GPU na resolução de problemas fivespot em reservatórios de hidrocarbonetos

2011 - 2012	Project participation activities, Conselho Superior de Ensino, Pesquisa e Extensão, .

Research Projects
Aplicação de processamento paralelo com GPU a problemas de escoamento monofásico em meios porosos

2010 - 2011	Project participation activities, Conselho Superior de Ensino, Pesquisa e Extensão, .

Research Projects
Aplicando processamento paralelo com GPU ao problema do fractal de Mandelbrot

---

Research Projects

2018 - Present　AR: Algoritmos de Roteamento para redes aquaticas

Description: Projeto de Pesquisa CNPq Universal - Processo 447789/2014-7.
Situation: in Progress; *Nature:* Research.
Participant Students: Ph.D. (1) .
Participants: Bruno Pereira dos Santos - Participant / Luiz F. M. Vieira - Co-ordinator.
Sponsor(es): Conselho Nacional de Desenvolvimento Científico e Tecnológico - Grant .
S, T & A Production Rate: 2.

2018 - Present　MAE: Modelos, Algoritmos e Experimentos para Redes Sem Fio

Situation: in Progress; *Nature:* Research.
Participant Students: Ph.D. (1) .
Participants: Bruno Pereira dos Santos - Participant / Luiz F. M. Vieira - Co-ordinator / LOUREIRO, ANTONIO A. F. - Participant.
Sponsor(es): Fundação de Amparo à Pesquisa do Estado de Minas Gerais - Grant .
S, T & A Production Rate: 1.

Areas of Expertise

1.　*Major Area:* Exact and Earth Sciences / *Area:* Computer Science.

Languages

Portuguese	Comprehends Well, Speaks Well, Reads Well, Writes Well.
English	Comprehends Well, Speaks Reasonably, Reads Well, Writes Well.
Spanish	Comprehends Reasonably, Speaks Reasonably, Reads Well, Writes Reasonably.

Scientific, Technological, Artistic and Cultural Production

Bibliographical Production

Articles in Scientific Journals

1.　⭐ **doi>** PERES, BRUNA ; SANTOS, BRUNO P. ; DE O. SOUZA, OTAVIO A. ; GOUSSEVSKAIA, OLGA ; VIEIRA, MARCOS A.M. ; VIEIRA, LUIZ F.M. . Matrix: Multihop Address allocation and dynamic any-To-any Routing for 6LoWPAN. Computer Networks **JCR**, v. 1, p. 1-15, 2018. ; *Divulgation Media:* Digital; Website: http://https://doi.org/10.1016/j.comnet.2018.04.017; ISSN/ISBN: 13891286.

2. ⭐ **doi>** SANTOS, BRUNO P. ; GOUSSEVSKAIA, OLGA ; VIEIRA, LUIZ F.M. ; VIEIRA, MARCOS A.M. ; LOUREIRO, ANTONIO A.F. . Mobile Matrix: Routing under Mobility in IoT, IoMT, and Social IoT. Ad Hoc Networks **JCR**, v. 78, p. 84-98, 2018.
Keywords: Internet of Things; Mobility; Hierarchical address; Routing protocol.; *Divulgation Media:* Digital; Website: http://https://www.sciencedirect.com/science/article/pii/S1570870518302415; ISSN/ISBN: 15708705.

3. ⭐ **doi>** SANTOS, BRUNO P. ; VIEIRA, LUIZ F.M. ; VIEIRA, MARCOS A.M. . CGR: Centrality-based green routing for Low-power and Lossy Networks. Computer Networks **JCR**, v. 129, p. 117-128, 2017.
Keywords: Sensor networks; Routing; Wireless Communication; Centrality.
Major Area: Exact and Earth Sciences. ; *Divulgation Media:* Digital; Website: http://https://www.sciencedirect.com/science/article/pii/S1389128617303602?via%3Dihub; ISSN/ISBN: 13891286.

Book Chapter Published

1. ⭐ **doi>** Cunha, Felipe ; Maia, Guilherme ; Ramos, Heitor S. ; Perreira, Bruno ; Celes, Clayson ; Campolina, André ; Rettore, Paulo ; Guidoni, Daniel ; Sumika, Fernanda ; Villas, Leandro ; Mini, Raquel ; Loureiro, Antonio . . 1 ed. : Springer Singapore, 2018, v. , p. 297-315.
Additional References: Brasil/Português; Website: http://link.springer.com/10.1007/978-981-13-0396-8_15; Revision Number: 1; ISBN: 9789811303951.

2. CUNHA, F. D. ; MAIA, G. ; CELES, C. S. F. S. ; SANTOS, BRUNO P. ; RETTORE, P. H. L. ; CAMPOLINA, A. B. ; GUIDONI, D. ; SOUZA, F. S. H. ; RAMOS, H. S. ; VILLAS, L. ; MINI, R. A. F. ; LOUREIRO, A. A. F. . . In: Heitor Ramos. (Org.). 35 ed. Porto Alegre RS: Sociedade Brasileira de Computação (SBC), 2017, v. , p. 1-50.
Additional References: Brasil/Português; *Divulgation Media:* Several; Website: http://homepages.dcc.ufmg.br/~fdcunha/; Revision Number: 35; ISBN: 9783161484100.

3. ⭐ SANTOS, BRUNO P. ; SILVA, L. A. M. ; CELES, C. S. F. S. ; BORGES NETO, J. B. ; PERES, B. S. ; VIEIRA, M. A. M. ; VIEIRA, LUIZ F.M. ; GOUSSEVSKAIA, O. N. ; LOUREIRO, A. A. F. . . In: Frank Augusto Siqueira; Lau Cheuk Lung; Fabíola Gonçalves Pereira Greve; Allan Edgard Silva Freitas. (Org.). 34 ed. Porto Alegre RS: Sociedade Brasileira de Computação (SBC), 2016, v. XXXIV, p. 1-50.
Keywords: IoT; Internet of Things.
Additional References: Brasil/Português; *Divulgation Media:* Several; Website: https://bps90.github.io/papers/Internet-das-coisas-da-teoria-a-pratica/; Revision Number: 34; ISBN: 9783161484100.

Articles in Newspapers/Magazines

1. Bruno P. S. ; RETTORE, P. H. L. ; VIEIRA, L. F. M. ; LOUREIRO, ANTONIO A. F. . . IEEE Network - Internet of Things for Smart Cities: Technologies and Applications.
Referências Adicionais: Estados Unidos/Inglês; *Divulgation Media:* Several.

Complete works published in proceedings of conferences

1. **doi>** SANTOS, BRUNO P. ; GOUSSEVSKAIA, OLGA ; VIEIRA, LUIZ F.M. ; VIEIRA, MARCOS A.M. ; LOUREIRO, ANTONIO A.F. . , 2017, Miami. Proceedings of the 13th ACM Symposium on QoS and Security for Wireless and Mobile Networks - Q2SWinet '17, 2017. p. 65.
Additional References: Event Classification: International; Brasil/ Português; Website: http://mswimconf.com/2017/; ISSN/ISBN: 9781450351652.

2. SANTOS, BRUNO P. ; RETTORE, P. H. L. ; RAMOS, H. S. ; VIEIRA, LUIZ F.M. ; LOUREIRO, A. A. F. . , 2017, Belém/PA. Anais Simpósio Brasileiro de Redes de Computadores e Sistemas Distribuídos, 2017.
Additional References: Event Classification: National; Brasil/ Português; *Divulgation Media:* Several; Website: http://https://sbrc2017.ufpa.br/en/

3. **doi>** RETTORE, PAULO H. L. ; SANTOS, BRUNO P. ; CAMPOLINA, ANDRE B. ; VILLAS, LEANDRO A. ; LOUREIRO, ANTONIO A. F. . , 2016, Rio de Janeiro. 2016 IEEE 19th International Conference on Intelligent Transportation Systems (ITSC), 2016. p. 126.
Additional References: Event Classification: International; Brasil/ Português; Website: http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=7784515; ISSN/ISBN: 9781509018895.

4. **doi>** Bruno P. S. ; VIEIRA, M. A. M. ; VIEIRA, L. F. M. . , 2015, New Orleans. Mobile and Wireless Networks - 2015 IEEE Wireless Communications and Networking Conference (WCNC), 2015.
Keywords: Sensor Network; Routing; Wireless Communication.
Major Area: Exact and Earth Sciences.
Additional References: Event Classification: International; Estados Unidos/ Inglês; *Divulgation Media:* Digital; Website: http://wcnc2015.ieee-wcnc.org/content/track-3-mobile-and-wireless-networks

5. **doi>** SANTOS, BRUNO PEREIRA ; VIEIRA, LUIZ FILIPE MENEZES ; VIEIRA, MARCOS AUGUSTO MENEZES . , 2015, Vitoria. 2015 XXXIII Brazilian Symposium on Computer Networks and Distributed Systems. p. 159.
Keywords: Centralidade; Comunicação sem fio; Redes de Sensores Sem Fio; Roteamento.
Major Area: Exact and Earth Sciences.
Additional References: Event Classification: Brasil/ Português; *Divulgation Media:* Several; Website: http://sbrc2015.ufes.br/?page_id=1133; ISSN/ISBN: 9781467377676.

6. Bruno P. S. ; VIEIRA, L. F. M. ; VIEIRA, MARCOS A.M. . , 2015, Vitória. XXXIII Simpósio Brasileiro de Redes de Computadores e Sistemas Distribuídos, 2015. v. 33.

Additional References: Event Classification: National; Brasil/ Português; *Divulgation Media:* Several; Website: http://sbrc2015.ufes.br/?page_id=80

7.   Dany S. Domínguez ; ORELLANA E. T. V. ; Bruno P. S. ; IGLESIAS, S. M. . , 2014, Barcelona. Algorithmic Aspects of High-performance Computing for Mechanics and Physics IV, 2014.
Keywords: Parallel computing; Single phase flow; GPU; CPU.
Major Area: Exact and Earth Sciences.
Additional References: Event Classification: International; Espanha/ Inglês; *Divulgation Media:* Digital; Website: http://wccm-eccm-ecfd2014.org/frontal/ProgTodo.asp

8.   SANTOS, B. P. ; Dany S. Domínguez . Paradigmas de Processamento Paralelo na Resolução do Fractal de Mandelbrot, 2012, Juazeiro. Escola Regional Bahia Alagoas e Sergipe, 2012.
Keywords: Fractal Mandelbrot; GPU; Processamento Paralelo; OpenMP; MPI.
Major Area: Exact and Earth Sciences.
Major Area: Exact and Earth Sciences / *Área:* Ciência da Computação / *Subarea:* Modelagem Computacional.
Additional References: Event Classification: Regional; Brasil/ Português; *Divulgation Media:* Digital; Website: http://erbase2012.univasf.edu.br
Abstract. The diverse knowledge area such as engineering, bioinformatics or science needs a great computational power to solve their problems. In this subject, parallel processing is the best solution, this paper has the objective to compare the paradigms of parallel processing (Distributed and multicores CPUs and GPU) to resolve a known mathematical problem, the plot of Mandelbrot?s Fractal, when a fractal image need to be produced in a high resolution (1200x1200 pixel) or higher, traditional techniques of sequential processing are overly slow. So option will be presented to solve this problem..

9.   SANTOS, B. P. ; Dany S. Domínguez ; ORELLANA E. T. V. . Aplicando Processamento Paralelo com GPU ao Problema do Fractal de Mandelbrot, 2011, Salvador. Anais ERBASE 2011, 2011.
Keywords: Fractal Mandelbrot; GPU; Processamento Paralelo.
Major Area: Exact and Earth Sciences.
Activities Sectors: Pesquisa e desenvolvimento científico.
Additional References: Event Classification: Regional; Brasil/ Português; *Divulgation Media:* Digital; Website: http://www.acso.uneb.br/erbase2011/Anais/inicio.html
Abstract. In many areas of science and engineering large computational problems are common. Parallel processing techniques are use to solve this problems. This article show the characteristics of parallel processing using graphics cards from Nvidia, with the help of CUDA framework. The CUDA/GPU techniques will be applied to the generation of Mandelbrot?s fractal problem. We will show serial and parallel implementations, as well as validation of codes and comparative performance between approaches..

10. SANTOS, B. P. ; Dany S. Domínguez ; ORELLANA E. T. V. . The Problem of the Mandelbrot fractal and Comparison Shared Memory Architectures - OpenMP vs GPU, 2011, Ilhéus. Escola Regional de Alto Desempenho (ERAD), 2011.
Keywords: GPU; OpenMP; Processamento Paralelo; Fractal Mandelbrot.
Major Area: Exact and Earth Sciences.
Major Area: Exact and Earth Sciences / *Área:* Ciência da Computação / *Subarea:* Modelagem Computacional.
Activities Sectors: Pesquisa e desenvolvimento científico.
Additional References: Event Classification: Brasil/ Português; *Divulgation Media:* Digital; Website: http://www.infojr.com.br/ERAD/view/index.php
In many areas of science and engineering large computational problems are common. Parallel processing techniques are use to solve this problems. This work show the characteristics of parallel processing using graphics cards from Nvidia, with the help of CUDA framework. The CUDA/GPU techniques will be applied to the generation of Mandelbrot?s fractal problem. In addition we generate results using OpenMP techniques. We will show serial and parallel implementations, as well as validation of codes and comparative performance between approaches..

Summary published in proceedings of conferences

1.   SANTOS, B. P. ; Dany S. Domínguez . , 2012, Ilhéus. Anais SIC, 2012.
Keywords: GPU; Processamento Paralelo; Programação; Escoamento Monofásico.
Major Area: Exact and Earth Sciences.
Additional References: Event Classification: Local; Brasil/ Português; *Divulgation Media:* Digital; Website: http://propp.uesc.br/sic/

2.   SANTOS, B. P. ; Dany S. Domínguez ; ORELLANA E. T. V. . , 2011, Ilhéus. Sicanais, 2011.
Keywords: Processamento Paralelo; Fractal Mandelbrot; GPU; MPI; OpenMP.
Major Area: Exact and Earth Sciences.
Major Area: Exact and Earth Sciences / *Área:* Ciência da Computação / *Subarea:* Metodologia e Técnicas da Computação / *Specialty:* Modelagem Computacional.
Additional References: Event Classification: Local; Brasil/ Português; Website: http://propp.uesc.br/sicanais/resumos/2011282.pdf

Articles accepted for publication

1.   Bruno P. S. ; RETTORE, P. H. L. ; RAMOS, H. S. ; VIEIRA, LUIZ F.M. ; LOUREIRO, ANTONIO A. F. . . Computers and Communications (ISCC), 2010 IEEE Symposium on **JCR**, 2018.
Keywords: ITS; Social Media data; Big data in transportation; Social Networks; Crowdsourcing; ITS planning and implementation. ; ISSN/ISBN: 15301346.

Presentations of Work

1.   Bruno P. S. ; RETTORE, P. H. L. ; RAMOS, H. S. ; VIEIRA, LUIZ F.M. ; LOUREIRO, ANTONIO A. F. . . 2017. (Presentation/Symposium).
Keywords: Redes sociais; ITS.
Additional References: Brasil/Português; Place: Pará; City: Belém; Sponsor/Promoter Institution: Universidade Federal do Pará.

2. Bruno P. S. ; GOUSSEVSKAIA, OLGA ; VIEIRA, L. F. M. ; VIEIRA, MARCOS A.M. ; LOUREIRO, ANTONIO A. F. . . 2017. (Presentation/Symposium).
Additional References: Brasil/Inglês; Place: Estados Unidos; City: Miami; Sponsor/Promoter Institution: ACM.

3. Bruno P. S. ; CELES, C. S. F. S. ; BORGES NETO, J. B. ; SILVA, L. A. M. ; PERES, B. S. ; GOUSSEVSKAIA, O. N. ; VIEIRA, MARCOS A.M. ; VIEIRA, LUIZ F.M. ; LOUREIRO, ANTONIO A. F. . . 2016. (Presentation/Symposium).
Additional References: Brasil/Português; Place: Bahia; City: Salvador; Sponsor/Promoter Institution: Universidade Federal da Bahia.

4. Bruno P. S. ; VIEIRA, MARCOS A.M. ; VIEIRA, LUIZ F.M. . . 2015. (Presentation/Conference or Colloquium).
Additional References: Estados Unidos/Inglês; Place: Estados Unidos; City: New Orleans; Sponsor/Promoter Institution: IEEE.

5. Bruno P. S. ; VIEIRA, L. F. M. ; VIEIRA, MARCOS A.M. . . 2015. (Presentation/Symposium).
Additional References: Brasil/Português; Place: Espirito Santo; City: Vitória; Sponsor/Promoter Institution: UFES.

6. SANTOS, B. P. ; Dany S. Domínguez . . 2012. (Presentation/Conference or Colloquium).
Keywords: Processamento Paralelo; OpenMP; MPI; GPU.
Major Area: Exact and Earth Sciences.
Major Area: Exact and Earth Sciences / *Área:* Ciência da Computação.
Activities Sectors: Pesquisa e desenvolvimento científico.
Additional References: Brasil/Português; City: Juazeiro; Sponsor/Promoter Institution: UNIVASF.

7. Bruno P. S. ; Dany S. Domínguez . . 2012. (Presentation/Seminar).
Additional References: Brasil/Português; Place: Bahia; City: Ilhéus; Sponsor/Promoter Institution: Universidade Estadual de Santa Cruz.

8. SANTOS, B. P. ; Dany S. Domínguez ; ORELLANA E. T. V. . Processamento Paralelo Utilizando GPU. 2011. (Presentation/Conference or Colloquium).
Keywords: Processamento Paralelo; Fractal Mandelbrot; GPU.
Major Area: Exact and Earth Sciences.
Activities Sectors: Pesquisa e desenvolvimento científico.
Additional References: Brasil/Português; Place: UNEB; City: Salvador; Sponsor/Promoter Institution: UNEB ? Universidade do Estado da Bahia.
Abstract. In many areas of science and engineering large computational problems are common. Parallel processing techniques are use to solve this problems. This article show the characteristics of parallel processing using graphics cards from Nvidia, with the help of CUDA framework. The CUDA/GPU techniques will be applied to the generation of Mandelbrot?s fractal problem. We will show serial and parallel implementations, as well as validation of codes and comparative performance between approaches..

9. SANTOS, B. P. ; Dany S. Domínguez ; ORELLANA E. T. V. . The Problem of the Mandelbrot fractal and Comparison Shared Memory Architectures - OpenMP vs GPU. 2011. (Presentation/Conference or Colloquium).
Keywords: GPU; Fractal Mandelbrot; Processamento Paralelo; Programação; OpenMP.
Major Area: Exact and Earth Sciences.
Major Area: Exact and Earth Sciences / *Área:* Ciência da Computação / *Subarea:* Metodologia e Técnicas da Computação / *Specialty:* Modelagem Computacional.
Activities Sectors: Pesquisa e desenvolvimento científico.
Additional References: Brasil/Português; Place: UESC; City: Ilhéus-BA; Sponsor/Promoter Institution: Universidade Estadual de Santa Cruz - UESC.
In many areas of science and engineering large computational problems are common. Parallel processing techniques are use to solve this problems. This work show the characteristics of parallel processing using graphics cards from Nvidia, with the help of CUDA framework. The CUDA/GPU techniques will be applied to the generation of Mandelbrot?s fractal problem. In addition we generate results using OpenMP techniques. We will show serial and parallel implementations, as well as validation of codes and comparative performance between approaches..

10. SANTOS, B. P. ; Dany S. Domínguez ; ORELLANA E. T. V. . . 2011. (Presentation/Seminar).
Keywords: Processamento Paralelo; GPU; Fractal Mandelbrot.
Major Area: Exact and Earth Sciences.
Major Area: Exact and Earth Sciences / *Área:* Ciência da Computação / *Subarea:* Metodologia e Técnicas da Computação / *Specialty:* Modelagem Computacional.
Additional References: Brasil/Português; City: Ilhéus; Sponsor/Promoter Institution: Universidade Estadual de Santa Cruz.

Other Kinds of Bibliographical Production a

1. Silva, E. B. ; Pantuza, G. ; Sampaio, F. ; Bruno P. S. ; VIEIRA, L. F. M. ; VIEIRA, MARCOS A.M. ; Macedo, D. . 2014 (Artigo público).
Additional References: Brasil/Inglês; *Divulgation Media:* Digital; Website: http://homepages.dcc.ufmg.br/~bruno.ps/wp-content/uploads/2015/11/Link_balancing.pdf

Events

Participation in events

1. . 2017. (Participation In Events/ Symposium).
Additional References: Brasil/
types of participation: Apresentação oral
forms of participation: Participante; Website: https://sbrc2017.ufpa.br.

2. . 2015. (Participation In Events/Other).
Additional References: Brasil/
forms of participation: Ouvinte; Website: http://www.evcomp.dcc.ufmg.br/previous/2015/.

3. . 2012. (Participation In Events/ Congresses).
Additional References: Brasil/
types of participation: Apresentação oral
forms of participation: Participante.

4. . 2012. (Participation In Events/ Seminary).
Additional References: Brasil/
types of participation: Apresentação oral
forms of participation: Participante.

5. . 2012. (Participation In Events/ Seminary).
Additional References: Brasil/
forms of participation: Ouvinte.

6. . 2011. (Participation In Events/ Seminary).
Additional References: Brasil/
forms of participation: Ouvinte; Website: http://propp.uesc.br/sic/.

7. . 2011. (Participation In Events/ Seminary).
Additional References: Brasil/
types of participation: Apresentação oral
forms of participation: Participante.

8. . 2011. (Participation In Events/Other).
Additional References: Brasil/
types of participation: Apresentação oral
forms of participation: Participante; Website: http://www.acso.uneb.br/erbase2011/?page=apresentacao.

9. . 2011. (Participation In Events/Other).
Additional References: Brasil/
types of participation: Apresentação oral
forms of participation: Participante; Website: http://www.infojr.com.br/ERAD/view/index.php.

10. . 2010. (Participation In Events/ Seminary).
Additional References: Brasil/
forms of participation: Ouvinte; Website: http://propp.uesc.br/sic/.

11. . 2010. (Participation In Events/ Seminary).
Additional References: Brasil/
forms of participation: Ouvinte.

12. . 2009. (Participation In Events/ Congresses).
Additional References: Brasil/
forms of participation: Ouvinte.

13. . 2009. (Participation In Events/ Seminary).
Additional References: Brasil/
forms of participation: Ouvinte.

14. . 2009. (Participation In Events/ Seminary).
Additional References: Brasil/
forms of participation: Ouvinte; Website: http://www.cacicuesc.com.br/sinform2009/#.

15. . 2006. (Participation In Events/ Workshops).
Additional References: Brasil/
forms of participation: Ouvinte.

16. . 2006. (Participation In Events/ Workshops).
Additional References: Brasil/
forms of participation: Ouvinte.

Organization of Events

1. Bruno P. S. . . 2018. (Event Production/ Other).
Additional References: Brasil/Português; *Divulgation Media:* Several; Event itinerant: Yes; Event period: 1; Place: Bahia; City: Salvador; Sponsor/Promoter Institution: Universidade Federal da Bahia.

2. Bruno P. S. . . 2012. (Event Production/ Other).
Additional References: Brasil/Português; *Divulgation Media:* Others; Event itinerant: No; Event period: 1; Place: Bahia; City: Ilhéus; Sponsor/Promoter Institution: Universidade Estadual de Santa Cruz.

3. Bruno P. S. . . 2011. (Event Production/ Other).
Additional References: Brasil/Português; *Divulgation Media:* Others; Event itinerant: No; Event period: 1; Place: Bahia; City: Ilhéus;
Sponsor/Promoter Institution: Universidade Estadual de Santa Cruz.