

Mylene C. Q. Farias

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Researcher in Video and Image Processing



Department of Computer Science, University of Brasilia
Campus Universitário Darcy Ribeiro - Asa Norte
ICC Centro - Caixa postal 4466
70910-900 Brasília - DF - Brasil
Tel.: +55 (61) 3307-2702
Mylene@unb.br
<http://www.cic.unb.br/~mylene/index.html>

BIO

Mylene C.Q. Farias received her B.Sc. degree in electrical engineering from Universidade Federal de Pernambuco (UFPE), Brazil, in 1995 and her M.Sc. degree in electrical engineering from the Universidade Estadual de Campinas (UNICAMP), Brazil, in 1998. She received her Ph.D. in electrical and computer engineering from the University of California Santa Barbara (UCSB), USA, in 2004 for work in no-reference video quality metrics.

Dr. Farias has worked as a research engineer at CPqD (Brazil) in video quality assessment and validation of video quality metrics. She has also worked as an intern for Philips Research Laboratories (The Netherlands) in video quality assessment of sharpness algorithms and as a consultant for Intel Corporation (Phoenix, USA) developing no-reference video quality metrics. Currently she is an Assistant Professor of the Department of Computer Science at the University of Brasilia (UnB), Brazil.

Her current interests include video quality metrics, video processing, multimedia, watermarking, and information theory. Dr. Farias is a member of IEEE, SPIE and the Video Quality Experts Group (VQEG).

WORK EXPERIENCE

Assistant Professor | University of Brasilia

June 2009 – Present

Research Interests: video quality metrics, video processing, multimedia, watermarking, and information theory

Teaching activity: Courses Image Processing, Data Transmission

Assistant Professor | Federal University of São Paulo, São José dos Campos

February 2008 - June 2009

Research Staff Member | Intel Corp., Chandler, Arizona, USA

March 2005 - February 2006

**Post Doctoral Researcher | University of Santa Barbara,
California, USA**

September 2004 - February 2005

Intern Researcher | Philips Research, the Netherlands

August 2003 - October 2003

Research Engineer | CPqD, Campinas, SP, Brazil

October 1997 - June 2008

EDUCATION

**PhD in and Computer Engineering, 2004 | University of
California, Santa Barbara, CA, U.S.A**

2004

Dissertation title: "No-Reference and Reduced Reference Video Quality Metrics:
New Contributions"

Advisor: Sanjit K. Mitra

**MSc in Electrical and Computer Engineering | State
University of Campinas**

1998

Dissertation title: "Wavelet Transform Applications in Image Compression"

Advisor: Amauri Lopes

**BSc in Electrical and Computer Engineering | Federal
University of Pernambuco**

1994

PROFESSIONAL QUALIFICATIONS

Referee for: Journal of Electronic Imaging (Springfield), Optical
Engineering (Bellingham), EURASIP Journal on Applied Signal Processing,
IEEE Transactions on Image Processing, Signal Processing. Image
Communication, IEEE Transactions on Circuits An Systems for Video
Technology, Journal of Visual Communication and Image Representation

LIST OF PUBLICATIONS

Journal Papers

1. REGIS, C. D. M. ; Raissa Rocha ; FARIAS, Mylene Christine Queiroz de ; ALENCAR, Marcelo Sampaio . Objective and Subjective Evaluation of Space-Transcoded Videos for Mobile Receivers. JOURNAL OF COMMUNICATION SOFTWARE AND SYSTEMS, v. 6, p. 1-10, 2010.
2. FARIAS, Mylene Christine Queiroz de ; Carvalho, Marcelo M. ; Alencar, Marcelo S. . Digital Television Broadcasting in Brazil. IEEE Multimedia, v. 15, p. 64-70, 2008.
3. FARIAS, Mylene Christine Queiroz de ; FOLEY, John M ; MITRA, Sanjit Koumar . Detectability and Annoyance of Synthetic Blocky, Blurry, Noisy, and Ringing Artifacts. IEEE Transactions on Signal Processing, v. 55, p. 2954-2964, 2007.
4. FOLEY, John M ; VARADHARAJAN, Srinivasa ; KOH, Chin C. ; FARIAS, Mylene Christine Queiroz de . Detection of Gabor patterns of different sizes, shapes, phases and eccentricities. Vision Research, v. 47, p. 85-107, 2006.
5. ADSUMILLI, Chowdary .b. ; FARIAS, Mylene Christine Queiroz de ; CARLI, Marco ; MITRA, Sanjit K . A Robust Error Concealment Technique using Data Hiding for Image/Video Transmission over Lossy Wired/Wireless Channels. IEEE Transactions on Circuits An Systems for Video Technology , v. 15, p. 1394-1406, 2005.
6. FARIAS, Mylene Christine Queiroz de ; CARLI, Marco ; MITRA, Sanjit K . Objective Video Quality Metric based on Data Hiding. IEEE Transactions on Consumer Electronics , Estados Unidos, v. 51, n. 3, p. 983-992, 2005.

Books

1. FARIAS, Mylene Christine Queiroz de; No-Reference and Reduced Reference Video Quality Metrics. Saarbrücken, Alemanha : VDM Verlag, 2008, v.1. p.168.

Book Chapters

1. FARIAS, Mylene Christine Queiroz de . Video Quality Metrics. In: Floriano De Rango. (Org.). Digital Video. 1 ed. Vienna: INTECH, 2010, v. 1, p. 343-372.
2. FARIAS, Mylene Christine Queiroz de ; Carvalho, Marcelo M. . International System for Digital Television (ISDTV). In: Marcelo Sampaio Alencar. (Org.). Digital Television Systems. 1 ed. Cambridge: Cambridge University Press, 2009, v. , p. -.
3. Carvalho, Marcelo M. ; FARIAS, Mylene Christine Queiroz de . Digital Terrestrial Television Multimedia Broadcasting (DTMB). In: Marcelo Sampaio Alencar. (Org.). Digital Television Systems. 1 ed. Cambridge: Cambridge University Press, 2009, v. , p. -.
4. FARIAS, Mylene Christine Queiroz de . O Padrão de Televisão Digital Nacional. In: Marcelo Sampaio Alencar. (Org.). Televisão Digital. 1a ed. São Paulo: Érica, 2007, v. , p. 237-266.

Conference Publications

1. BONFIM, T. S. ; Carvalho, Marcelo M. ; FARIAS, Mylene Christine Queiroz de . Video quality evaluation for a digital television broadcasting scenario. In: International Workshop on Video Processing and Quality Metrics for Consumer Electronics (VPQM), 2010, Scottsdale, Arizona, EUA.
2. FARIAS, Mylene Christine Queiroz de ; Carvalho, Marcelo M. . Video Quality Assessment Based on Data Hiding for IEEE 802.11 Wireless Networks. In: IEEE International Symposium on Broadband Multimedia Systems and Broadcasting, 2010, Shanghai, China.
3. REGIS, C. D. M. ; FARIAS, Mylene Christine Queiroz de ; Alencar, Marcelo S. . Video Spatial Transcoding Assessment Based on Structural Distortion Measurement. In: International Workshop on Telecommunications, 2009, São Paulo.
4. FARIAS, Mylene Christine Queiroz de ; MITRA, Sanjit K . A Methodology for desinging No-Reference Video Quality Metrics. In: Fourth International Workshop on Video Processing and Quality Metrics for Consumer Electronics, 2009, Scottsdale.
5. REGIS, C. D. M. ; ROCHA, J. S. ; FARIAS, Mylene Christine Queiroz de ; ALENCAR, Marcelo Sampaio . Assessment of Space Transcoded Videos to Mobile Receivers Using the Average Filter. In: 7th International Information and Telecommunication Technologies Symposium, 2008, Foz do Iguçu.
6. FARIAS, Mylene Christine Queiroz de ; ALENCAR, Marcelo Sampaio . Evolução Histórica da Televisão Digital no Brasil. In: Encontro de História da Ciência e Tecnologia: Desafios para o Nordeste, 2007, Campina Grande.
7. REGIS, C. D. M. ; OLIVEIRA, J. F. F. ; ROCHA, J. S. ; FARIAS, Mylene Christine Queiroz de ; ALENCAR, Marcelo Sampaio ; Gilney Christierny B. dos Anjos . Transcodificação de Vídeo digital para Receptores Portáteis. In: IV SEGeT Simpósio de Excelência em Gestão e Tecnologia, 2007.
8. REGIS, C. D. M. ; ROCHA, J. S. ; OLIVEIRA, J. F. F. ; FARIAS, Mylene Christine Queiroz de ; ALENCAR, Marcelo Sampaio . Transcodificação de Vídeo Digital para TV Móvel. In: 6th International Information and Telecommunication Technologies Symposium, 2007, Brasília.
9. FARIAS, Mylene Christine Queiroz de ; MITRA, Sanjit K . No-Reference Video Quality Metric based on Artifact Measurements. In: IEEE International Conference on Image Processing, 2005, Genova. 2005. v. 3. p. 141-144.
10. CARLI, Marco ; FARIAS, Mylene Christine Queiroz de ; GELASCA, Elisa Drelie ; TEDESCO, Roberto ; NERI, Alessandro. Quality Assessment Using Data Hiding On Perceptually Important Areas. In: IEEE International Conference on Image Processing, 2005, Genova, 2005.
11. FARIAS, Mylene Christine Queiroz de ; FOLEY, John M ; MITRA, Sanjit K . Detectability and Annoyance of Synthetic Blockiness, Blurriness, Noisiness, and Ringing in Video Sequences. In: International Conference on Acoustics, Speech, and Signal Processing, 2005, Philadelphia, 2005. v. 2. p. 553-556.
12. FARIAS, Mylene Christine Queiroz de ; MOORE, Michael S ; FOLEY, John M ; MITRA, Sanjit K .

- Experimental analysis and modeling of digital video quality. In: First International Workshop on Video Processing and Quality Metrics for Consumer Electronics, 2005, Scottsdale, Arizona, 2005.
13. FARIAS, Mylene Christine Queiroz de ; FOLEY, John M ; MITRA, Sanjit K . Perceptual Analysis of Video Impairments that Combine Blocky, Blurry, Noisy, and Ringing Synthetic Artifacts. In: SPIE Human Vision and Electronic Imaging, 2005, San Jose, CA. v. 5666. p. 107-118.
 14. GELASCA, Elisa Drelie ; FARIAS, Mylene Christine Queiroz de ; EBRAHIMI, Touradj ; CARLI, Marco ; MITRA, Sanjit K . Annoyance of Spatio-Temporal Artifacts in Segmentation Quality Assessment. In: IEEE International Conference on Image Processing, 2004, Cingapura, 2004. v. 1. p. 345-348.
 15. GELASCA, Elisa Drelie ; FARIAS, Mylene Christine Queiroz de ; EBRAHIMI, Touradj ; CARLI, Marco ; MITRA, Sanjit K . Towards perceptually driven segmentation evaluation metrics. In: Computer Vision and Pattern Recognition Workshop, 2004, Washington DC, USA, 2004. p. 52-56.
 16. GELASCA, Elisa Drelie ; FARIAS, Mylene Christine Queiroz de ; EBRAHIMI, Touradj ; MITRA, Sanjit K . Impact of Topology Changes in Video Segmentation Evaluation. In: International Workshop on Image Analysis for Multimedia Interactive Services, 2004, Lisboa, 2004.
 17. FARIAS, Mylene Christine Queiroz de ; CARLI, Marco ; NERI, Alessandro ; MITRA, Sanjit K . A New No-Reference Method for Video Quality Assessment Using Data Hiding. In: IEEE Digital Signal Processing and its Applications, 2004, Moscou. Invited Paper, 2004.
 18. FARIAS, Mylene Christine Queiroz de ; FOLEY, John M ; MITRA, Sanjit K . Detectability and Annoyance of Synthetic Blurring and Ringing in Video Sequences. In: IEEE International Conference on Acoustics, Speech, and Signal Processing, 2004, Montreal. v. 3. p. 697-700.
 19. FARIAS, Mylene Christine Queiroz de ; MOORE, Michael S ; FOLEY, John M ; MITRA, Sanjit K . Perceptual Contributions of Blocky, Blurry, and Fuzzy Impairments to Overall Annoyance. In: SPIE Human Vision and Electronic Imaging, 2004, San Jose, CA, 2004. v. 5292. p. 109-120.
 20. FARIAS, Mylene Christine Queiroz de ; CARLI, Marco ; NERI, Alessandro ; MITRA, Sanjit K . Video Quality Assessment Based on Data Hiding Driven by Optical Flow Information. In: SPIE Human Vision and Electronic Imaging IX, 2004, San Jose, CA, 2004. v. 5294. p. 190-200.
 21. GOMES, Jose Gabriel C. ; FARIAS, Mylene Christine Queiroz de ; CARLI, Marco ; MITRA, Sanjit K . An Accurate Billing Mechanism for Multimedia Communications. In: IEEE International Conference on Multimedia & Expo (ICME), 2003, Baltimore, MD, 2003. v. 1. p. 93-96.
 22. FARIAS, Mylene Christine Queiroz de ; FOLEY, John M ; MITRA, Sanjit K . Perceptual Contributions of Blocky, Blurry and Noisy Artifacts to Overall Annoyance. In: IEEE International Conference on Multimedia & Expo (ICME), 2003, Baltimore, MD, 2003. v. 1. p. 529-532.
 23. ADSUMILLI, Chowdary B. ; FARIAS, Mylene Christine Queiroz de ; CARLI, Marco ; MITRA, Sanjit K . A Hybrid Constrained Unequal Error Protection Scheme with Data Hiding for Video Transmission over Lossy Channels. In: IEEE International Conference on Acoustics, Speech, and Signal Processing, 2003, Hong Kong. p. 680-683.
 24. FARIAS, Mylene Christine Queiroz de ; FOLEY, John M ; MITRA, Sanjit K . Some Properties of Synthetic Blocky and Blurry Artifacts. In: SPIE Human Vision and Electronic Imaging, 2003, San

- Jose, CA, 2003. v. 5007. p. 128-136.
25. FARIAS, Mylene Christine Queiroz de ; CARLI, Marco ; MITRA, Sanjit K . Video Quality Objective Metric using Data Hiding. In: IEEE 2002 Workshop on Multimedia Signal Processing, 2002, St. Thomas, US Virgin Island. v. 3. p. 464-467.
 26. CARLI, Marco ; BAILEY, Donald ; FARIAS, Mylene Christine Queiroz de ; MITRA, Sanjit K . Error Control and Concealment for Video Transmission. In: Symposium on Wireless Personal Multimedia Communications, 2002, Honolulu, Hawaii. v. 2. p. 812-815.
 27. FARIAS, Mylene Christine Queiroz de ; CARLI, Marco ; FOLEY, John M ; MITRA, Sanjit K . Detectability and Annoyance of Artifacts in Watermarked Digital Videos. In: XI European Signal Processing Conference, 2002, Toulouse.
 28. FARIAS, Mylene Christine Queiroz de ; CARLI, Marco ; NERI, Alessandro ; MITRA, Sanjit K . A Comparison Between an Objective Quality Measure and the Mean Annoyance Values of Watermarked Videos. In: IEEE International Conference on Image Processing, 2002, Rochester, NY. v. 3. p. 469-472.
 29. BAILEY, Donald ; CARLI, Marco ; FARIAS, Mylene Christine Queiroz de ; MITRA, Sanjit K . Quality Assessment for Block-Based Compressed Images and Videos with Regard to Blockiness Artefacts. In: Tyrrhenian International Workshop on Digital Communications, 2002, Capri.
 30. FARIAS, Mylene Christine Queiroz de ; MOORE, Michael S ; FOLEY, John M . Detectability and Annoyance of Synthetic Blocky and Blurry Artifacts. In: SID International Symposium, 2002, Boston. v. 33. p. 708-712.