Daniel H. Moreira

Postdoctoral researcher at the University of Notre Dame

Department of Computer Science and Engineering
Computer Vision Research Lab
384 Fitzpatrick Hall
Notre Dame, IN, US, 46556

Email: dhenriq1@nd.edu
Home: http://danielmoreira.github.io/
Phone: (574) 298 - 8651
Interests: Computer Vision, Machine Learning, Visual Media Forensics

Education

PhD degree (2013 – 2016)
University of Campinas (Unicamp), Institute of Computing (IC), Campinas, SP, Brazil
Computer Science, Sensitive-Video Analysis. Advisor: Dr. Anderson Rocha / Coadvisor: Dr. Siome Goldenstein.

MSc degree (2006 – 2008)
Federal University of Pernambuco (UFPE), Informatics Center (CIn), Recife, PE, Brazil
Computer Science, Multi-agent Patrolling. Advisor: Dr. Geber Ramalho.

BSc degree (2001 – 2005)
Federal University of Pará (UFPA), Exact and Natural Sciences Institute (ICEN), Belém, PA, Brazil
Computer Science.

Experience

Research scholar (2016)
University of Notre Dame, Department of Computer Science and Engineering, Notre Dame, IN, US
Computer Vision Research Lab (CVRL). Advisors: Dr. Walter Scheirer, Dr. Adam Czajka, and Dr. Patrick Flynn.
Postdoctoral researcher. J1-visa scholar.

Research fellow (2013 – 2016)
University of Campinas (Unicamp), Institute of Computing (IC), Campinas, SP, Brazil
Reasoning for Complex Data Lab (RECOD). Advisor: Dr. Anderson Rocha.
PhD student.

Systems analyst (2009 – 2013)
Federal Data Processing Service (SERPRO), Belém, PA, Brazil
Full-stack lead developer.

Lecturer (2012 – 2012)
Centro Universitário do Estado do Pará (CESUPA), Belém, PA, Brazil
Lecturer of the Systems and Database Programming 40h-module, within the Corporative Databases Postgraduate Course.

Systems analyst (2008 – 2009)
Cobra Tecnologia S.A., Belém, PA, Brazil
Back-end programmer.

Research fellow (2006 – 2008)
Federal University of Pernambuco (UFPE), Recife, PE, Brazil
Informatics Center (CIn). Advisor: Dr. Geber Ramalho.
MSc student.

Selected Publications (as of 2016)

2019 **Daniel Moreira**, Sandra Avila, Mauricio Perez, Daniel Moraes, Vanessa Testoni, Eduardo Valle, Siome Goldenstein, Anderson Rocha.
Multimodal Data Fusion for Sensitive Scene Localization.
Elsevier Information Fusion (IF) 45, pp. 307 – 323.

Daniel Moreira, Mateusz Trokielewicz, Adam Czajka, Kevin Bowyer, Patrick Flynn.
Performance of Humans in Iris Recognition: The Impact of Iris Condition and Annotation-Driven Verification.
In: IEEE Winter Conference on Applications of Computer Vision (WACV), Hawaii County, US.

Adam Czajka, **Daniel Moreira**, Kevin Bowyer, Patrick Flynn.
Domain-Specific Human-Inspired Binarized Statistical Image Features for Iris Recognition.
In: IEEE Winter Conference on Applications of Computer Vision (WACV), Hawaii County, US.

Aparna Bharati, **Daniel Moreira**, Joel Brogan, Patricia Hale, Kevin Bowyer, Patrick Flynn, Anderson Rocha, Walter Scheirer.
Beyond Pixels: Image Provenance Analysis Leveraging Metadata.
In: IEEE Winter Conference on Applications of Computer Vision (WACV), Hawaii County, US.

Joel Brogan, **Daniel Moreira**, Aparna Bharati, Kevin Bowyer, Patrick Flynn, Anderson Rocha, Walter Scheirer.
Dynamic Spatial Verification for Large-Scale Object-Level Image Retrieval.
ArXiv Preprint.

2018 **Daniel Moreira**, Aparna Bharati, Joel Brogan, Allan Pinto, Michael Parowski, Kevin Bowyer, Patrick Flynn, Anderson Rocha, Walter Scheirer.
Image Provenance Analysis at Scale.
IEEE Transactions on Image Processing (T-IP) 27, 12, pp. 6109 – 6123.

Nathaniel Blanchard, **Daniel Moreira**, Aparna Bharati, Walter Scheirer.
Getting the subtext without the text: Scalable multimodal sentiment classification from visual and acoustic modalities.
In: ACL Grand Challenge and Workshop on Human Multimodal Language, Melbourne, Australia.

2017 **Daniel Moreira**, Sandra Avila, Mauricio Perez, Daniel Moraes, Vanessa Testoni, Eduardo Valle, Siome Goldenstein, Anderson Rocha.
Temporal Robust Features for Violence Detection.
In: IEEE Winter Conference on Applications of Computer Vision (WACV), Santa Rosa, US.

Aparna Bharati, **Daniel Moreira**, Allan Pinto, Joel Brogan, Kevin Bowyer, Patrick Flynn, Walter Scheirer, Anderson Rocha.
U-Phylogeny: Undirected provenance graph contruction in the wild.
In: IEEE International Conference on Image Processing (ICIP), Beijing, China.

Allan Pinto, **Daniel Moreira**, Aparna Bharati, Joel Brogan, Kevin Bowyer, Patrick Flynn, Walter Scheirer, Anderson Rocha.
Provenance filtering for multimedia phylogeny.
In: IEEE International Conference on Image Processing (ICIP), Beijing, China.

Joel Brogan, Paolo Bestagini, Aparna Bharati, Allan Pinto, **Daniel Moreira**, Kevin Bowyer, Patrick Flynn, Anderson Rocha, Walter Scheirer.
Spotting the difference: Context retrieval and analysis for improved forgery detection and localization.
In: IEEE International Conference on Image Processing (ICIP), Beijing, China.

Mauricio Perez, Sandra Avila, **Daniel Moreira**, Daniel Moraes, Vanessa Testoni, Eduardo Valle, Siome Goldenstein, Anderson Rocha.
Video pornography detection through deep learning techniques and motion information.
Elsevier Neurocomputing 230, pp. 279 – 293.

2016 **Daniel Moreira**, Sandra Avila, Mauricio Perez, Daniel Moraes, Vanessa Testoni, Eduardo Valle, Siome Goldenstein, Anderson Rocha.
Pornography Classification: The Hidden Clues in Video Space-Time.
Elsevier Forensic Science International (FSI) 268, pp. 46 – 61.

Patents

2019 Sandra Avila, **Daniel Moreira**, Mauricio Perez, Daniel Moraes, Vanessa Testoni, Eduardo Valle, Siome Goldenstein, Anderson Rocha.
Multimodal and Real-Time Method for Filtering Sensitive Media. US010194203B2, US. Filled June 30th, 2016.

2017 Sandra Avila, **Daniel Moreira**, Mauricio Perez, Daniel Moraes, Vanessa Testoni, Eduardo Valle, Siome Goldenstein, Anderson Rocha.
Método Multimodal e em Tempo Real para Filtragem de Conteúdo Sensível. BR1020160072654A2, Brazil. Filled April 1st, 2016.

Honors and Awards

2017 *Best 2016 Brazilian PhD Thesis in Computer Science*. Brazilian Computer Society (SBC).

2006 *Honor Graduating Student in Computer Science*. Brazilian Computer Society (SBC).

Skills

Top Programming Languages: C, C++, Java, Python, and Matlab. Versed in: Unix shell script, Mathematica, SQL, Prolog, and Pascal.
Sun Certified Programmer for the Java 2 Platform, Standard Edition 5.0, 2009.

Languages

Portuguese (mother tongue); **English** (2014 TOEFL ITP score: 617).

Teaching Areas

Computer Vision and Image Processing
Machine Learning, Pattern Recognition, and Artificial Intelligence
Digital Forensics
Data Structures
Database Concepts and Systems
Programming Languages: C, C++, Java, Python
Programming Paradigms,
Elements, Fundamentals, and Introduction to Computing