

Daniel H. Moreira

Postdoctoral researcher at the University of Notre Dame

Department of Computer Science and Engineering
Computer Vision Research Lab
307 Stinson-Remick Hall of Engineering
Notre Dame, IN, US, 46556

Email: dhenriq1@nd.edu
Home: <http://danielmoreira.github.io/>
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) Serviço Federal de Processamento de Dados (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 2014)

- 2019** Joel Brogan, Aparna Bharati, **Daniel Moreira**, Kevin Bowyer, Patrick Flynn, Anderson Rocha, Walter Scheirer.
Needle in a Haystack: A Framework for Seeking Small Objects in Big Datasets. ArXiv Preprint.
- 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.
- 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** 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.
- 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 construction in the wild. In: IEEE Intl. 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 Intl. 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 Intl. Conference on Image Processing (ICIP), Beijing, China.
- 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.
- 2015** **Daniel Moreira**, Sandra Avila, Mauricio Perez, Daniel Moraes, Vanessa Testoni, Eduardo Valle, Siome Goldenstein, Anderson Rocha.
RECOD at MediaEval 2015: Affective Impact of Movies Task. In: MediaEval Multimedia Benchmark Workshop, Wurzen, Germany.
- 2014** Sandra Avila, **Daniel Moreira**, Mauricio Perez, Daniel Moraes, Isabela Cota, Vanessa Testoni, Eduardo Valle, Siome Goldenstein, Anderson Rocha.
RECOD at MediaEval 2014: Violent Scenes Detection Task. In: MediaEval Multimedia Benchmark Workshop, Barcelona, Spain.

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).

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

Skills

Sun Certified Programmer for the Java 2 Platform, Standard Edition 5.0, 2009.

Top Programming Languages: C, C++, Java, Python, and Matlab. Versed in: Unix shell script, Mathematica, SQL, Prolog, and Pascal.

Languages

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