Jan Butora

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Position: **CNRS** (French National Center of Scientific Research) **Researcher**

Research domains: Media Forensics, Steganography, Steganalysis, Trustworthy Deep Learning, Generated Content Detection, Watermarking, Statistical Image Modeling

Education:

Binghamton University, Binghamton, NY, USA

2021: PhD under the supervision of Jessica Fridrich: Digital Image Steganography

Charles University, Prague, Czech Republic

2017: Master thesis with speciality: Mathematical Methods of Information Security (*summa cum laude*)
2015: Bachelor thesis with speciality: Mathematical Methods of Information Security

Employees:

Centre National de la Recherche Scientifique, France *CNRS Researcher (Chargé de Recherche) at CRIStAL (Lille),*	**Oct. 2024 - Today**
Centre National de la Recherche Scientifique, France *CNRS Postdoctoral Researcher at CRIStAL (Lille),* *Funded by l'Agence de l'innovation de défense*	**Jun. 2021 - Sep. 2024**
Binghamton University, Binghamton, NY, USA *PhD under J. Fridrich's supervision* *Funded by DARPA*	**Aug. 2017 - May 2021**

Awards:

Honorable Mention Award, 12th Workshop on Information Hiding and Multimedia Security, Baiona, Spain, June 24-26, 2024
"*The Adobe Hidden Feature and its Impact on Sensor Attribution*" co-authored with Patrick Bas

Best Paper Award, 9th Workshop on Information Hiding and Multimedia Security, Brussels, Belgium, June 22-25, 2021
"*Revisiting Perturbed Quantization*" co-authored with Jessica Fridrich

Best Paper Award, 7th Workshop on Information Hiding and Multimedia Security, Paris, France, July 3-5, 2019
"*Effect of JPEG Quality on Steganographic Security*" co-authored with Jessica Fridrich

Community Involvement:

2025 - 2027: **Associated Editor** of IEEE Transactions on Information Forensics and Security

2022 - 2024: **Elected Member** of IEEE Information Forensics and Security Technical Committee

2022 - 2024: **Award Subcommittee Member** of IEEE Information Forensics and Security Technical Committee

Dec. 2022: **Award Chair** of the IEEE International Workshop on Information Forensics and Security, Shanghai, China

Jun. 2022: **Technical Program Chair** of the ACM Workshop on Information Hiding and Multimedia Security, Santa Barbara, USA

Reviewer:
- IEEE Transactions on Information Forensics and Security (IEEE TIFS)
- IEEE Transactions on Dependable and Secure Computing (IEEE TDSC)
- IEEE Transactions on Multimedia (IEEE TM)
- IEEE Transactions on Circuits and Systems for Video Technology (IEEE TCSVT)
- IEEE International Conference on Acoustics, Speech and Signal Processing (IEEE ICASSP)
- IEEE International Conference in Image Processing (IEEE ICIP)
- IEEE International Workshop on Information Forensics and Security (IEEE WIFS)
- ACM Workshop on Information Hiding and Multimedia Security (ACM IH&MMSec)
- EURASIP Journal on Information Security

Invited Talks: **Adobe hidden feature and its detection**, ENFSI DIWG 2024, The Hague, Netherlands, October 2024

Controlling false positives of DL steganalyzers, seminar in LIRMM laboratory, Montpellier, France, December 2023

Robust Steganography, UNCOVER Summer School on Steganography, Prague, Czech Republic, September 2023

Teaching: **Centrale Lille**, France

    2024: Information Security

IMT Nord Europe, France

    2025: Security, Authentication, and Forensics
    2024: Security, Authentication, and Forensics
    2023: Security, Authentication, and Forensics
    2022: Théorie du Signal

Binghamton University, USA

    2020: Deep Learning for Electrical and Computer Engineering
    2019: Detection Theory
    2019: Fundamentals of Steganography

Scientific publications: 5 articles published in scientific journals + 1 currently under review

27 papers published in conferences

Citations (Scholar): h-index: 10

Number of citations: 460

List of publications: **International journal publications**
- 'Dual JPEG Compatibility: a Reliable and Explainable Tool for Image Forensics' with E. Levecque, and P. Bas, IEEE Transactions on Information Forensics and Security, under review
- 'Finding Incompatibles Blocks for Reliable JPEG Steganalysis' with E. Levecque, and P. Bas, IEEE Transactions on Information Forensics and Security, September 2024
- 'Size-Independent Reliable CNN for RJCA Steganalysis' with P. Bas, IEEE Transactions on Information Forensics and Security, March 2024
- 'Errorless Robust JPEG Steganography using Outputs of JPEG Coders' with P. Puteaux, and P. Bas, IEEE Transactions on Dependable and Secure Computing, August 2023
- 'Side-Informed Steganography for JPEG Images by Modeling Decompressed Images' with P. Bas, IEEE Transactions on Information Forensics and Security, April 2023

- 'Reverse JPEG Compatibility Attack' with J. Fridrich, IEEE Transactions on Information Forensics and Security, vol. 15, no.1, pp. 1444-1454, December 2019

International conference publications

- 'MODE: Loss Function for Deep Steganalysis at Low False Positive Rate', with P. Bas, 33th EUSIPCO, Palermo, Italy, September 8-12, 2025
- 'Errorless Robust JPEG Steganography for Pixel Images', with E. Levecque, and P. Bas, IEEE WIFS, Rome, Italy, December 2-5, 2024
- 'Detection of the Adobe Pattern', with P. Bas, 32nd EUSIPCO, Lyon, France, August 26-30, 2024
- 'The Adobe Hidden Feature and its Impact on Sensor Attribution', with P. Bas, 12th IH&MMSec. Workshop, Baiona, Spain, June 24-26, 2024
- 'Analysis and Mitigation of the False Alarms of the Reverse JPEG Compatibility Attack', with P. Bas, 11th IH&MMSec. Workshop, Chicago, Illinois, June 28-30, 2023
- 'Compatibility and Timing Attacks for JPEG Steganalysis', with E. Levecque, and P. Bas, 11th IH&MMSec. Workshop, Chicago, Illinois, June 28-30, 2023
- 'Toward Reliable JPEG Steganalysis (at QF 100)', with E. Levecque, J. Klein, and P. Bas, IEEE WIFS, Shanghai, China, December 12-16, 2022
- 'Fighting the Reverse JPEG Compatibility Attack: Pick your Side', with P. Bas, 10th IH&MMSec. Workshop, Santa Barbara, California, June 27-29, 2022
- 'CNN Steganalyzers Leverage Local Embedding Artifacts', with Y. Yousfi, and J. Fridrich, IEEE WIFS, Montpellier, France, December 7-10 2021
- 'Revisiting Perturbed Quantization', with J. Fridrich, 9th IH&MMSec. Workshop, Brussels, Belgium, June 22-25, 2021
- 'How to Pretrain for Steganalysis', with Y. Yousfi and J. Fridrich, 9th IH&MMSec. Workshop, Brussels, Belgium, June 22-25, 2021
- 'Improving EfficientNet for JPEG Steganalysis', with Y. Yousfi, J. Fridrich, and C. F. Tsang, 9th IH&MMSec. Workshop, Brussels, Belgium, June 22-25, 2021
- 'Extending the Reverse JPEG Compatibility Attack to Double Compressed Images', with J. Fridrich, IEEE ICASSP 2021, Toronto, Canada, June 6-11, 2021
- 'ImageNet Pre-trained CNN Models for JPEG Steganalysis', with Y. Yousfi, E. Khvedchenya, and J. Fridrich, IEEE WIFS, New York, NY, December 6-11, 2020
- 'Turning Cost-Based Steganography into Model-Based', with Y. Yousfi and J. Fridrich, 8th IH&MMSec. Workshop, Denver, CO, June 20-22, 2020
- 'Steganography and its Detection in JPEG Images Obtained with the "Trunc" Quantizer', with J. Fridrich, IEEE ICASSP 2020, Barcelona, Spain, May 4-8, 2020
- 'Minimum Perturbation Cost Modulation for Side-Informed Steganography', with J. Fridrich, Proc. IS&T, Electronic Imaging, Media Watermarking, Security, and Forensics 2020, San Francisco, CA, January 26-30, 2020
- 'Effect of JPEG Quality on Steganographic Security', with J. Fridrich, 7th IH&MMSec. Workshop, Paris, France, July 3-5, 2019
- 'Breaking ALASKA: Color Separation for Steganalysis in JPEG Domain', with Y. Yousfi, J. Fridrich, and Q. Giboulot, 7th IH&MMSec. Workshop, Paris, France, July 3-5, 2019
- 'Detection of Diversified Stego Sources with CNNs', with J. Fridrich, Proc. IS&T, Electronic Imaging, Media Watermarking, Security, and Forensics 2019, San Francisco, CA, January 14-17, 2019

National conference publications

- 'The AI Waterfall: Case Study in Integrating Machine Learning and Security', with P. Bas, GRETSI, Strasbourg, France, August 25 - August 29, 2025
- 'DeepFake Detection based on Noise Residuals', with M. T. Doi, V. Itier, J. Boulanger, and P.

Bas, GRETSI, Strasbourg, France, August 25 - August 29, 2025

- 'Génération d'Images et Insertion d'un Message Caché dans l'Espace Latent de *Glow*', with A. Noirault, V. Itier, and P. Bas, GRETSI, Strasbourg, France, August 25 - August 29, 2025
- 'Attaque temporelle de la compatibilité JPEG', with E. Levecque, and P. Bas, GRETSI, Grenoble, France, August 28 - September 1, 2023
- 'Stéganographie robuste et sans erreur dans des images JPEG en utilisant les sorties des codeurs JPEG', with P. Puteaux, and P. Bas, CORESA, Lille, France, 7-9 June , 2023
- 'Vers une Stéganalyse Certifiée pour des Images JPEG', with E. Levecque, J. Klein, and P. Bas, GRETSI, Nancy, France, September 6-9, 2022
- 'High Quality JPEG Compressor Detection via Decompression Error', with P. Bas, GRETSI, Nancy, France, September 6-9, 2022