# Quoc-Tin Phan

CONTACT Information Department of Information Engineering and Computer Science

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RESEARCH INTERESTS In computer vision, machines are taught to see what human can see. On the contrary, multimedia contain patterns that human cannot see and machines potentially can. I am passionate on the exploitation of machine learning to detect imperceptible patterns associated with security issues in multimedia data.

EDUCATION

# University of Trento, Trento, Italy

Ph.D., Multimedia Analysis, Expected: December 2018

- Concentration: Studying the process in which digital images are created, modified, diffused, and exploiting machine learning to uncover digital image provenance.
- Advisors: Giulia Boato, Ph.D and Francesco G. B. De Natale, Ph.D

## University of Science, HCMC, Ho Chi Minh city, Vietnam

M.S., Computer Science, June 2014

- Concentration: Public key cryptography based on the discrete logarithm problem on a matrix group and its application in searchable encryption
- Advisor: Thuc D. Nguyen, Ph.D

ACADEMIC & RESEARCH EXPERIENCE

#### Research Visitting Student

Sep. 2018 to Feb. 2019

Visual Information Processing and Protection (VIPP)

Department of Information Engineering and Mathematics

University of Siena, Italy Supervisor: Mauro Barni, Ph.D

## **Doctoral Research Fellow**

Oct. 2015 to present

Doctoral School in Information and Communication Technology

University of Trento, Italy

Supervisor: Giulia Boato, Ph.D, and Francesco G. B. De Natale, Ph.D

#### Teaching Assistant

Sep. 2017 to Mar. 2018

Multimedia Data Security (codice 145614), University of Trento

Collaborator in EUREGIO challenge, hosted by University of Trento, Italy, and University of Innsbruck, Austria.

## Research Assistant

May. 2011 to Oct. 2015

Faculty of Computer Network and Communication University of Information Technology, HCMC Supervisors: Hong-Hai Dam-Quang, Ph.D

#### **Publications**

- 1. Q.-T. Phan, G. Boato, R. Caldelli, I. Amerini, "Tracking Multiple Image Sharing on Social Networks", 2018. To appear in *Int. Conference on Acoustics, Speech, and Signal Processing.*
- 2. Q.-T. Phan, G. Boato, F. G. B. De Natale, "Accurate and Scalable Image Clustering Based On Sparse Representation of Camera Fingerprint", *IEEE Transactions on Information Forensics & Security*, 2019. Early access: link.
- 3. Q.-T. Phan, C. Pasquini, G. Boato, F. G. B. De Natale, "Identifying image provenance: an analysis of mobile instant messaging apps", *Int. Workshop on Multimedia Signal Processing*, 2018.

- F. Lago, Q.-T. Phan, G. Boato, "Image Forensics on Online News", Int. Workshop on Multimedia Signal Processing, 2018.
- 5. Q.-T. Phan, D.-T. Dang-Nguyen, G. Boato, F. G. B. De Natale, "Using LDP-TOP In Video Based Spoofing Detection", *Int. Conference on Image Analysis and Processing*, 2017.
- 6. Q.-T. Phan, G. Boato, F. G. B. De Natale, "Image Clustering by Source Camera via Sparse Representation", *Int. Workshop on Multimedia Forensics and Security*, 2017.
- 7. Q.-T. Phan, A. Budroni, C. Pasquini and F. G. B. De Natale, "A Hybrid Approach for Multimedia Use Verification", *MediaEval*, 2016.
- 8. Q.-T. Phan, D. T. Dang-Nguyen and G. Boato and F. G. B. De Natale, "Face spoofing detection using LDP-TOP", *Int. Conference on Image Processing*, 2016.
- Tin Q. Phan, Van H. Dang and Thuc D. Nguyen, "A Novel Construction for PEKS Scheme Using Matrix Group", Ubiquitous Information Technologies and Applications, 2014.

# SUBMITTED PUBLICATIONS

1. E. Sansone, Q.-T. Phan, F. G. B. De Natale, "Coulomb Autoencoders", 2019. Submitted to *International Conference on Machine Learning*.

#### Presentations

Conferences and Workshops

• Int. Conference on Image Processing, Arizona, USA

Sep 2016

• MediaEval Workshop, Hilversum, Netherlands

Oct 2016

- Int. Workshop on Multimedia Forensics and Security, Bucharest, Romania June 2017
- Int. Conference on Image Analysis and Processing, Sicily, Italy Sep 2017
- GTTI Thematic Meeting on Multimedia Signal Processing, Trento, Italy 2018

#### References

Giulia Boato

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University of Trento, Italy

Francesco G. B. De Natale

Professor E-mail: francesco.denatale@unitn.it

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