

CV Vitomir Štruc

Vitomir Štruc received his PhD degree in electrical engineering from the University of Ljubljana in 2010. After his PhD studies he took a senior software developer position at Alpineon d.o.o., a privately held company, where he participated in several projects related to face recognition, biometrics, and computer vision in general. During his employment at Alpineon, Vitomir was also in charge of the company's computer vision group. In late 2011 Dr. Štruc again joined the Faculty of Electrical Engineering in Ljubljana as a postdoctoral research fellow. Currently, he is working as an assistant professor at the Laboratory of Artificial Perception, Systems and Cybernetics of the Faculty of Electrical Engineering, University of Ljubljana.

Vitomir has been involved as a key member in several national and EU funded R&D projects and authored or co-authored more than 70 research papers for leading international peer reviewed journal and conferences related to different issues of computer vision, image processing, pattern recognition, face recognition and biometrics.

Vitomir's activities for the last five years are listed below.

Journal Referee:

- IEEE Transactions on Pattern Analysis and Machine Intelligence,
- IEEE Transactions on Information Forensics and Security,
- IEEE Transaction on Image Processing,
- IEEE Transactions on Neural Networks and Learning Systems,
- Pattern Recognition,
- Pattern Recognition Letters
- IET Computer Vision,
- IET Signal Processing,
- SPIE Journal on Electronic Imaging, ...

Organizing committees:

- Co-organizer of the *International Workshop on Biometrics in the Wild* 2015 (together with Bir Bhanu, Abdenour Hadid, Qiang Ji and Mark Nixon)
- Co-organizer of the *2015 Workshop on De-identification for privacy protection in multi-media* (together with Terrance Boult, Fernando de la Torre and Slobodan Ribarić)
- Local arrangement chair for *the IEEE Conference on Automatic Face and Gesture Recognition 2015* (IEEE FG 2015),
- Co-organizer of the *Opensur Workshop* (Privacy Enabled Surveillance) 2013,
- Organizing committee member *Class conference* 2012, 2013 (200+ participants)
- ...

Program committee member/conference referee:

- IWBF 2015, ECCV workshop on Soft Biometrics 2014, ICPR 2012, ERK 2011, 2012, 2013, 2014, MIPRO 2011, 2014, ICAISC 2014, ...

Societies:

- Treasurer of the Slovenian Pattern Recognition Society (2013 - present),
- Vice-President of the Slovenian Pattern Recognition Society (2010-2011), ...

Membership:

- IEEE,
- the IEEE Computer Society,
- the IEEE Signal Processing Society,
- International Association of Pattern Recognition - IAPR,
- International Speech Communication Association – ISCA,
- the European Association for Biometrics - EAB, ...

Recent projects:

- Research program Metrology and biometric systems (P2-0250), Vitomir is part of the program group, duration: ongoing
- EU FP7 RESPECT: Rules, Expectations & Security through Privacy-Enhanced Convient Technology, Vitomir is part of the project group, duration: 2012-2015
- EU FP7 CP SMART: Scalable Measures for Automated Recognition Technologies, Vitomir is part of the project group, duration: 2011-2014
- EU FP7 CSA HIDE: Homeland Security, biometric Identification & Personal Detection Ethics, Vitomir is part of the project group, duration: 2008-2010
- COST Action IC 1106: Integrating Biometrics and Forensics for the Digital Age, duration 2012 - 2016; Vitomir is a MC substitute
- COST Action IC 1206: De-identification for privacy protection in multimedia content, duration 2013 - 2017; Vitomir is a MC substitute
- Postdoc project BAMBI: Biometric face recognition in ambient intelligence environments, Vitomir was the principal researcher, duration: 2011-2013
- Bilateral cooperations with Croatia, Bolgaria, China

More information on Vitomir's professional activities can be found from his personal web-pages: <http://luks.fe.uni-lj.si/nluks/people/vitomir-struc/>

Publication List (for the last 5 years)

A complete publication list is available from the Slovenian bibliographic database COBISS:

<http://splet02.izum.si/cobiss/bibliography?code=28458&langbib=eng>

Peer-reviewed journal articles (original publications)

1. EMERŠIČ, Žiga, BULE, Jernej, ŽGANEC GROS, Jerneja, **ŠTRUC, Vitomir**, PEER, Peter. A case study on multi-modal biometrics in the cloud. *Electrotechnical Review*, ISSN 0013-5852. [Slovenska tiskana izd.], 2014, letn. 81, št. 3, str. 74-80.

2. **ŠTRUC, Vitomir**, ŽGANEC GROS, Jerneja, VESNICER, Boštjan, PAVEŠIĆ, Nikola. Beyond parametric score normalisation in biometric verification systems. *IET biometrics*, ISSN 2047-4938. [Print ed.], Jun. 2014, vol. 3, no. 2, pp. 62-74.
3. PEER, Peter, EMERŠIČ, Žiga, BULE, Jernej, ŽGANEC GROS, Jerneja, **ŠTRUC, Vitomir**. Strategies for exploiting independent cloud implementations of biometric experts in multibiometric scenarios. *Mathematical problems in engineering*, ISSN 1024-123X. [Print ed.], 13 Mar. 2014, vol. 2014, pp. 1-15.
4. **ŠTRUC, Vitomir**, ŽGANEC GROS, Jerneja, PAVEŠIĆ, Nikola, DOBRIŠEK, Simon. Zlivanje informacij za zanesljivo in robustno razpoznavanje obrazov. *Electrotechnical Review*, ISSN 0013-5852. [Slovenska tiskana izd.], 2013, vol. 80, no. 3, pp. 92-97.
5. SULIĆ KENK, Vildana, KRIŽAJ, Janez, **ŠTRUC, Vitomir**, DOBRIŠEK, Simon. Smart surveillance technologies in border control. *European journal of law and technology*, ISSN 2042-115X. [Online ed.], 2013, vol. 4, no. 2, str. 1-12.
6. PEER, Peter, BULE, Jernej, ŽGANEC GROS, Jerneja, **ŠTRUC, Vitomir**. Building cloud-based biometric services. *Informatica (Ljublj.)*, 2013, vol. 37, no. 1, pp. 115-122.
7. DOBRIŠEK, Simon, GAJŠEK, Rok, MIHELIČ, France, PAVEŠIĆ, Nikola, **ŠTRUC, Vitomir**. Towards efficient multi-modal emotion recognition. *International Journal of Advances in Robotic Systems*, 2013, vol. 10, no. 53, pp. 1-10, doi: [10.5772/54002](https://doi.org/10.5772/54002).
8. DOBRIŠEK, Simon, **ŠTRUC, Vitomir**, MIHELIČ, France, VESNICER, Boštjan. Bodo pametni nadzorni sistemi prisluhnili, razumeli in spregovorili slovensko?. V: ERJAVEC, Tomaž (ur.), ŽGANEC GROS, Jerneja (ur.). *Jezikovne tehnologije*. Ljubljana: Trojina, Institute for Applied Slovene Studies, 2013, str. 165-180.
9. KRIŽAJ, Janez, **ŠTRUC, Vitomir**, DOBRIŠEK, Simon. Robust 3D face recognition. *Electrotechnical Review*, ISSN 2232-3228. [English print ed.], 2012, vol. 79, no. 1/2, pp. 1-6.
10. KRIŽAJ, Janez, **ŠTRUC, Vitomir**, DOBRIŠEK, Simon. Towards robust 3D face verification using Gaussian mixture models. *International Journal of Advances in Robotic Systems*, 2012, vol. 9, no. 162, pp. 1-11.
11. VESNICER, Boštjan, ŽGANEC GROS, Jerneja, PAVEŠIĆ, Nikola, **ŠTRUC, Vitomir**. Face recognition using simplified probabilistic linear discriminant analysis. *International Journal of Advances in Robotic Systems*, 2012, vol. 9, no. 180, pp. 1-10.
12. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. The complete Gabor-Fisher classifier for robust face recognition. *EURASIP Journal of Advances in Signal Processing*. 2010, vol. 2010, pp. 1-26.
13. Poh, N., Chan C.H., Kittler, J., Marcel, S., McCool, C., Rua, E.A., Castro, J.L.A., Villegas, M., Paredes, R., **Štruc, V.**, PAVEŠIĆ, N., Salah, A.A., Fang, H., Costen, N. *IEEE transactions on information forensics and security*, Dec. 2010, vol. 5, no. 4, pp. 781-801.
14. **ŠTRUC, Vitomir**, GAJŠEK, Rok, MIHELIČ, France, PAVEŠIĆ, Nikola. Using regression techniques for coping with the one-sample-size problem of face recognition. *Electrotechnical Review*, 2009, vol. 76, no. 1/2, pp. 7-12.
15. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. Gaussianization of image patches for efficient palmprint recognition. *Electrotechnical Review*, 2009, vol. 76, no. 5, pp. 245-250.
16. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. Phase congruency features for palm-print verification. *IET signal processing*, 2009, vol. 3, no. 4, pp. 258-268.

17. GAJŠEK, Rok, **ŠTRUC, Vitomir**, MIHELIČ, France, PODLESEK, Anja, KOMIDAR, Luka, SOČAN, Gregor, BAJEC, Boštjan. Multi-modal emotional database : AVID. *Informatica (Ljublj.)*, 2009, vol. 33, no. 1, pp. 101-106.
18. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. Gabor-based kernel partial-least-squares discrimination features for face recognition. *Informatica (Vilnius)*, 2009, vol. 20, no. 1, pp. 115-138.

Peer reviewed international conference proceedings

19. VESNICER, Boštjan, ŽGANEC-GROS, Jerneja, DOBRIŠEK, Simon, **ŠTRUC, Vitomir**: Incorporating Duration Information into I-vector-based Speaker-Recognition systems, In: *Odyssey: the Speaker and Language Recognition Workshop*, Joensuu, Finland, 2014.
20. Beveridge, J.R., Zhang, H., Flynn, P.J., Lee, Y., Liong, V.E., Lu, J., de Assis Angeloni, M., de Freitas Pereira, T., Li, H., Hua, G., **ŠTRUC, Vitomir**, Krizaj J. and Phillips, P.J.: The IJCB 2014 PaSC Video Face and Person Recognition Competition, In: *International Joint Conference on Biometrics (IJCB 2014)*, 2014.
21. KRIŽAJ, Janez, **ŠTRUC, Vitomir**, MIHELIČ, France. A feasibility study on the use of binary keypoint descriptors for 3D face recognition. V: MARTÍNEZ-TRINIDAD, José Francisco (ur.). *Pattern recognition : proceedings : 6th Mexican Conference, MCPR 2014, Cancun, Mexico, June 25-28, 2014*, (Lecture Notes in Computer Science, ISSN 0302-9743, 8495). Cham [etc.]: Springer, cop. 2014, pp. 142-151.
22. MARČETIĆ, Darijan, RIBARIĆ, Slobodan, **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. An experimental tattoo de-identification system for privacy protection in still images. V: *Special Session on Biometrics, Forensics, De-identification and Privacy Protection, Opatija, Croatia, May 29 - 30, 2014*. RIBARIĆ, Slobodan (ur.). *BiForD 2014 : proceedings*, (MIPRO, ISSN 1847-3938). Rijeka: Croatian Society for Information and Communication Technology, Electronics and Microelectronics - MIPRO, cop. 2014, pp. 69-74
23. KRIŽAJ, Janez, **ŠTRUC, Vitomir**, DOBRIŠEK, Simon, MARČETIĆ, Darijan, RIBARIĆ, Slobodan. SIFT vs. FREAK : assessing the usefulness of two keypoint descriptors for 3D face verification. V: *Special Session on Biometrics, Forensics, De-identification and Privacy Protection, Opatija, Croatia, May 29 - 30, 2014*. RIBARIĆ, Slobodan (Ed.). *BiForD 2014 : proceedings*, (ISSN 1847-3938). Croatian Society for Information and Communication Technology, Electronics and Microelectronics - MIPRO, cop. 2014, pp. 123-128
24. KRIŽAJ, Janez, **ŠTRUC, Vitomir**, DOBRIŠEK, Simon. Combining 3D face representations using region covariance descriptors and statistical models. In: *10th IEEE International Conference on Automatic Face and Gesture Recognition, Shanghai, China, April 22-26, 2013*. *FG 2013*. 2013, pp. 1-7.
25. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola, ŽGANEC GROS, Jerneja, VESNICER, Boštjan. Patch-wise low-dimensional probabilistic linear discriminant analysis for face recognition. In: *2013 IEEE International Conference on Acoustics, Speech, and Signal Processing, May 26-31, Vancouver, Canada*. *ICASSP 2013*, 2013, pp. 2352-2356.
26. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola, ŽGANEC GROS, Jerneja. Composite score normalization for face verification. In: *International Workshop on Biometrics and Forensics, April 4-5, 2013, Lisbon, Portugal*. *IWBF 2013*, 2013, pp. 1-4.

27. VESNICER, Boštjan, ŽGANEC GROS, Jerneja, PAVEŠIĆ, Nikola, **ŠTRUC, Vitomir**. Low-dimensional probabilistic linear discriminant analysis : application to face recognition. In: Deveta Konferencija Digitalna obrada govora i slike DOGS2012, Kovačica, Novi Sad: Fakultet tehničkih nauka, 2012, pp. 68-71.
28. **ŠTRUC, Vitomir**, ŽGANEC GROS, Jerneja, PAVEŠIĆ, Nikola. Non-parametric score normalization for biometric verification systems. V: 21st International Conference on Pattern Recognition (ICPR 2012), November 11-15, 2012, Tsukuba, Japan. *ICPR*, 2012, pp. 2395-2399.
29. **ŠTRUC, Vitomir**, ŽGANEC GROS, Jerneja. Developing face recognition technology for the KC Class Biometrics service. In: TROBEC, Roman (Ed.). *Proceedings of the 1th International Conference on CCloud Assisted ServiceS, Bled, Slovenia, October 22 -25, 2012*, pp. 68-75.
30. **ŠTRUC, Vitomir**, ŽGANEC GROS, Jerneja, PAVEŠIĆ, Nikola. Advanced correlation filters for facial landmark localization. V: ZAJC, Baldomir (Ed.), TROST, Andrej (Ed.). *Proceedings of ERK 2012*, 17.-19. september 2012, Portorož, Slovenija, 2012, pp. 153-156.
31. **ŠTRUC, Vitomir**, ŽGANEC GROS, Jerneja, PAVEŠIĆ, Nikola. Principal directions of synthetic exact filters for robust real-time eye localization. *Lecture notes in computer science*, 2010, pp. 180-192.
32. GAJŠEK, Rok, **ŠTRUC, Vitomir**, MIHELIČ, France. Multimodal emotion recognition based on the decoupling of emotion and speaker information. *Lecture notes in computer science*, 2010, pp. 275-282.
33. KRIŽAJ, Janez, **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. Adaptation of SIFT features for robust face recognition. *Lecture notes in computer science*, 2010, pp. 394-404.
34. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. Face recognition from color image using sparse projection analysis. *Lecture notes in computer science*, 2010, pp. 445-453.
35. **ŠTRUC, Vitomir**, ŽGANEC GROS, Jerneja, PAVEŠIĆ, Nikola. Eye localization using correlation filters. In: Osma Konferencija Digitalna obrada govora i slike DOGS2010, Novi Sad: Fakultet tehničkih nauka, 2010, pp. 188-191.
36. **ŠTRUC, Vitomir**, VESNICER, Boštjan, MIHELIČ, France, PAVEŠIĆ, Nikola. Removing illumination artifacts from face images using the nuisance attribute projection. In: 2010 IEEE International Conference on Acoustics, Speech, and Signal Processing, March 14-19, 2010, Dallas, Texas. *ICASSP 2010*, 2010, pp. 846-849.
37. **ŠTRUC, Vitomir**, DOBRIŠEK, Simon, PAVEŠIĆ, Nikola. Confidence weighted subspace projection techniques for robust face recognition in the presence of partial occlusions. In: 20th International Conference on Pattern Recognition, Istanbul, Turkey, 23-26 August 2010. *ICPR 2010*, 2010, pp. 1334-1338.
38. GAJŠEK, Rok, **ŠTRUC, Vitomir**, MIHELIČ, France. Multi-modal emotion recognition using canonical correlations and acoustic features. In: 20th International Conference on Pattern Recognition, Istanbul, Turkey, 23-26 August 2010. *ICPR 2010*, 2010, pp. 4133-4136.
39. KRIŽAJ, Janez, **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. Adaptation of SIFT features for face recognition under varying illumination. In: BOGUNOVIĆ, Nikola (Ed.), RIBARIĆ, Slobodan (Ed.). *Proceedings of MIPRO*, 2010, pp. 178-181.

40. JUSTIN, Tadej, GAJŠEK, Rok, **ŠTRUC, Vitomir**, DOBRIŠEK, Simon. Comparison of different classification methods for emotion recognition. In: BOGUNOVIĆ, Nikola (Ed.), RIBARIĆ, Slobodan (Ed.). *Proceedings of MIPRO*, 2010, pp. 187-190.
41. GAJŠEK, Rok, ŽIBERT, Janez, JUSTIN, Tadej, **ŠTRUC, Vitomir**, VESNICER, Boštjan, MIHELIČ, France. Gender and affect recognition based on GMM and GMM-UBM modeling with relevance MAP estimation. In: 11th Annual Conference of the International Speech Communication Association (Interspeech 2010), 26-30 September 2010, Makuhari, Chiba, Japan, 2010, pp. 2810-2813.
42. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. Illumination invariant face recognition by non-local smoothing. *Lecture notes in computer science*, 2009, pp. 1-8.
43. GAJŠEK, Rok, **ŠTRUC, Vitomir**, DOBRIŠEK, Simon, ŽIBERT, Janez, MIHELIČ, France, PAVEŠIĆ, Nikola. Combining audio and video for detection of spontaneous emotions. *Lecture notes in computer science*, 2009, pp. 114-121.
44. GAJŠEK, Rok, **ŠTRUC, Vitomir**, VESNICER, Boštjan, PODLESEK, Anja, KOMIDAR, Luka, MIHELIČ, France. Analysis and assessment of AvID : multi-modal emotional database. *Lecture notes in computer science*, 2009, pp. 266-273.
45. POH, Norman, **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. Face video competition. *Lecture notes in computer science*, 2009, pp. 715-724.
46. **ŠTRUC, Vitomir**, GAJŠEK, Rok, PAVEŠIĆ, Nikola. Principal Gabor filters for face recognition. In: IEEE Third International Conference on Biometrics : Theory, Applications and Systems, BTAS 2009, 2009, pp. 1-6.
47. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. A comparison of feature normalization techniques for PCA-based palmprint recognition. In: TROCH, Inge (Ed.), BREITENECKER, Felix (Ed.). 6th Vienna Conference on Mathematical Modelling, February 11-13, 2009, Vienna University of Technology, Austria. *MATHMOD*, 2009, pp. 2450-2453.
48. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. Image normalization techniques for robust face recognition. In: TRILLING, Leon (Ed.). *Recent advances in signal processing , robotics and automation : proceedings of the 8th WSEAS International Conference on Signal Processing, Robotics and Automation, Cambridge, UK, February 21-23, 2009*, pp. 155-160.
49. GAJŠEK, Rok, **ŠTRUC, Vitomir**, DOBRIŠEK, Simon, MIHELIČ, France. Emotion recognition using linear transformations in combination with video. In: 10th Annual Conference of the International Speech Communication Association, Interspeech 2009, 6-10 September, 2009, Brighton, UK. *Speech and intelligence : proceedings of Interspeech 2009*, (Interspeech), 2009, pp. 1967-1970.
50. **ŠTRUC, Vitomir**, MA, Zongmin, PAVEŠIĆ, Nikola. Face recognition using sparse projection axes. In: ZAJC, Baldomir (Ed.), TROST, Andrej (Ed.). *Proceedings of ERK 2009, 21-23. september 2009, Portorož, Slovenija*, 2009, pp. 271-274.
51. **ŠTRUC, Vitomir**, VESNICER, Boštjan, MIHELIČ, France, PAVEŠIĆ, Nikola. Nuisance attribute projection in the logarithm domain for face recognition under severe illumination changes. V: ZAJC, Baldomir (Ed.), TROST, Andrej (Ed.). *Proceedings of ERK 2009, 21-23. september 2009, Portorož, Slovenija*, pp. 279-282.

Edited Book, Book Chapters and Thesis

52. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. Photometric normalization technique for illumination invariance. In: ZHANG, Yu-Jin (Ed.). *Advances in face image analysis: techniques and technologies*. Hershey; New York: IGI Global: Medical Information Science Reference, 2011, pp. 279-300.
53. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. From Gabor magnitude to Gabor phase features: tackling the problem of face recognition under severe illumination changes. In: ORAVEC, Miloš (Ed.). *Face recognition*. In-Tech, 2010, pp. 215-238.
54. **ŠTRUC, Vitomir**, PAVEŠIĆ, Nikola. Hand-geometry device. V: LI, S. Z. (Ed.). *Encyclopedia of biometrics*. New York: Springer, 2009, pp. 693-698.

Citation List

A complete citation list can be obtained from Vitomir's Google Scholar page:
<http://scholar.google.si/citations?user=kr52cmAAAAJ&hl=en&oi=ao>