Vincent LEPETIT

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Born August 2, 1972
French citizen, Swiss resident

Education

Ph.D. in Computer Vision LORIA/INRIA Lorraine (1997-2001).

M.S. in Computer Science Henri Poincaré University, Nancy, France (1996).

Engineering degree in Computer Science École Supérieure d'Informatique et Applications de Lorraine. Specialization in software and database engineering (1993-1996).

"Classes préparatoires aux grandes écoles" (1990-1993).

Current Research Interests

Computer Vision: Object Detection and Recognition, Rigid and Deformable 3D Tracking and Registration, Biomedical Applications, Augmented Reality.

Professional Experience

Since January 2004: **Post-doctoral fellow** then **Senior Researcher**, CVLab (headed by Prof. P. Fua), EPFL.

2001-2003: **Post-doctoral fellow**, LIG then VRLab (headed by Prof. D. Thalmann), EPFL.

1997-2001: **Ph.D. student**, INRIA Lorraine.

Teaching Experience

EPFL: Selected Topics in Computer Vision, Predoctoral School (every other year since 2005, 7 $\times$ 2 hours, 20 students);

EPFL: Programming languages: Section Sciences et Technologies du Vivant, 14 $\times$ 4 hours, about 120 students per year (2003 to present). Also Section Chimie et Génie Chimique (2005/2006) and Génie Civil and Sciences et Ingénierie de l'Environnement (2002/2003).

École des Mines de Nancy, France: Determistic and discrete optimization. About 60 hours, 20 students (1999/2000);

Henri Poincaré University (Nancy, France): Algorithmic. About 40 hours and 50 students (2000/2001);

École Européenne d'Ingénieurs en Génie des Matériaux (Nancy, France): Algorithmic. About 120 hours, 50 students per year (1997-1999).

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Research Grants

Swiss National Science Foundation: View sets for 3D objects detection and recognition (2005 to 2011).

CTI project, Advanced Computer Vision and Visual Languages for Broader Markets in Augmented Reality (2010 to 2012).

Synergia project, Understanding Brain Morphogenesis: Computer Vision Morphological Feature Extraction and a Machine Learning Approach to Study the Molecular and Environmental Factors Regulating Neuronal Development (2009 to 2011).

Interdisciplinary Pilot Project, SystemsX: Fine and Robust Segmentation of Adult-Born Neurons Development in 4D Two-Photon Microscopy (2008).

Interdisciplinary Pilot Project, SystemsX: Combined 4D 2-photon microscopy and computer vision segmentation analysis of adult-born neuron maturation (2007).

Awards

Best Paper Prize, Conference on Computer Vision and Pattern Recognition, San Diego, CA, June 2005.

Best Demonstration Prize, British Machine Vision Conference, Norwich, UK, September 2003.

Invited Talks

"Can We Track It?", Keynote Address, Winter Augmented Reality Meeting, Graz, Austria, February 24, 2011.

"Computer Vision for Augmented Reality", Technical University of Vienna, Vienna, Austria, February 23, 2011.

"Image Representations for 3D Reconstruction and Recognition", I3S, Sophia Antipolis, France, February 3, 2011.

"Image Representations for 3D Reconstruction and Recognition", Institute of Automation, Chinese Academy of Science, Beijing, China, September 20, 2010.

"Real-Time Camera Registration for Augmented Reality", Hewlett-Packard Labs, Palo Alto, USA, June 22, 2010.

"Image Representations for 3D Reconstruction and Recognition", Institute for Computer Graphics and Vision, Technical University of Graz, Graz, Austria, June 2, 2010.

"Recent Work on 3D Tracking for Augmented Reality", University of Canterbury, Christchurch, New Zealand, February 3, 2010.

"Image Representations for 3D Reconstruction and Recognition", Lear Group, INRIA Grenoble, France, January 5, 2010.

"Different Local Descriptors and their Applications", University of Bristol, United Kingdom, November 20, 2009.

"Different Local Descriptors and their Applications", Keynote Address, XXX Jornadas de Automática, Valladolid, Spain, September 3, 2009.

"Experiments with Feature Points", WillowGarage, Menlo Park, USA, July 21, 2009.

"Experiments with Feature Points", Keynote Address, Feature Detectors and Descriptors Workshop with CVPR'09, Miami, USA, June 21, 2009.

"3D Tracking using Natural Features", primer Encuentro Mexicano de Realidad Aumentada, CIMAT, Guanajuato, Mexico, April 17, 2009.

"Computer Vision and Augmented Reality", The 4th Winter Augmented Reality Meeting, Graz, Austria, February 13, 2009.

"Fast Keypoint Recognition and more Recent Work at CVLab", Microsoft Research, Seattle, USA, November 14, 2008.

"Computer Vision for Augmented Reality", Mediapro Workshop, Barcelona, Spain, October 27, 2008.

"Recent Progress at CVLab: deformable registration, 3D tracking and more", Center of Machine Perception, Czech Technical University, Prague, Czech Republic, 2008.

"Efficient Keypoint Recognition", Tutorial on Vision for Robotics (with IROS'08), Marseille, France, September 22, 2008.

"Computer Vision for Augmented Reality", Workshop on Industrial Augmented Reality: Needs and Solution (with ISMAR'08), Cambridge, UK, September 15, 2008.

"Keypoint Recognition and Pose Estimation", Interactive Media Laboratory, Hong-ik University, Seoul, South Korea, July 18, 2008.

"The promises of Computer Vision for Augmented Reality", International Symposium on Ubiquitous Virtual Reality, Gwangjiu, South Korea, July 11, 2008.

"Keypoint Recognition and Pose Estimation", IRIT, Paul Sabatier University, Toulouse, France, May 22, 2008.

"Visual 3D Tracking using Natural Features", Second Workshop on Robotics and Motion Planification, CIMAT, Guanajuato, Mexico, February 13, 2008.

"Efficient Keypoint Recognition", Mobile Interfaces Meet Cognitive Technologies seminar, Dagshtul, Germany, 2008.

"Efficient Keypoint Recognition and Pose Estimation", Center of Machine Perception, Czech Technical University, Prague, Czech Republic, 2007.

"Real-Time 3D Tracking in Monocular Sequences", Chair for Computer Aided Medical Procedures and Augmented Reality, Technical University of Munich, Germany, February 1, 2007.

"Some Methods for Augmented Reality". Laval Virtual, Laval, France, April 20, 2007.

"Keypoint Recognition in Ten Lines of Code", Oxford Robotics Research Group Seminar, UK, November 6, 2006.

"Keypoint Recognition in Ten Lines of Code", BIRS Workshop on Mathematical Methods in Computer Vision, Banff, Alberta, Canada, 2006.

Editorial and Conference Duties

General Chair for the International Symposium on Mixed and Augmented Reality (ISMAR) in 2011;

Area Chair for the Conference on *Computer Vision and Pattern Recognition* (CVPR), 2011;

Area Chair for the *European Conference on Computer Vision* (ECCV), 2010;

Program Chair for the *IEEE International Symposium on Mixed and Augmented Reality* (ISMAR), 2010;

Area Chair for the International Symposium on Mixed and Augmented Reality (ISMAR) in 2007 and 2009;

Co-Chair and organizer of the NORDIA'08 workshop at the international Conference in Vision and Pattern Recognition, 2008.

Co-chair and organizer of the tutorial on Rigid and Deformable Tracking using Markers or Scene Features at the International Symposium on Mixed and Augmented Reality, 2007;

Co-Chair and organizer of the DEFORM'06 workshop at the British Machine Vision Conference, 2006.

Reviewer for

- IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI);
- International Journal in Computer Vision (IJCV);
- IEEE Transactions on Robotics (T-RO);
- Computer Vision and Image Understanding (CVIU);
- Image and Vision Computing journal (IVC);
- Image Processing (IP);
- Pattern Recognition (PR).

Program committee member of

- European Conference on Computer Vision (2006, 2008);
- Conference on Vision and Pattern Recognition (2006-2010);
- Conference on Neural Information Processing Systems (2009-2010);
- IEEE International Conference on Computer Vision (2009);
- British Machine Vision Conference (2008-2010);
- Asian Conference on Computer Vision (2007, 2009);
- International Conference in Pattern Recognition (2008);
- International Symposium on Mixed and Augmented Reality (2006, 2008).

Tutorials

"Randomized Trees and Ferns for Detection, Tracking, and Pose Estimation", Tutorial on Rigid and Deformable Tracking using Markers or Scene Features, International Symposium on Mixed and Augmented Reality, 2007.

Co-Advising PhD Students (with Prof. P. Fua)

Roberto Rigamonti: Low-level feature learning.

Michael Calonder: Feature point recognition for SLAM applications, 2008 to present.

Mustafa Özuysal: Generic Object Detection, 2004 to present.

Julien Pilet: Automated Tracking Algorithms, 2004 to graduation in 2008.

Ali Shahrokni: Monocular Body Tracking, 2001 to graduation in December 2005. In the context of the VIBES (human body tracking in monocular sequences) European project.

Luca Vacchetti: 3D Tracking in Complex Environments for Augmented Reality Applications, 2001 to graduation in November 2004. In the context of the STAR (3D object tracking for Augmented Reality application) European project.

Advising Graduate and Undergraduate Students

Jean-René Barbazan: Realistic Lighting for Augmented Reality (Semester Project, 2007).

Lionel Chatelain: On Ferns for Pose Estimation (Master Project, 2007).

Lionel Chatelain: On Ferns for Pose Estimation (Semester Project, 2006).

Alain Mowat: Human Body / Background Segmentation Without Background Subtraction (Semester Project, 2006).

Mara Dalla Valle: Hand Posture Recognition in Video Sequences for Musical Applications (Master Project, 2005).

Damien Maupu: Automated 3D Tracking (Semester Project, 2005).

Yann Christinat: Interactive 3D reconstruction (Semester Project, 2005).

Pierre Dumas: People Detection using Template-Matching in a Multi-Camera Environment (Semester Project, 2005).

André Mazzoni: 3D Reconstruction for Augmented Reality (Semester Project, 2004).

André Mazzoni: Robust Human Body Detection (Master Project, 2004).

Isis Giraldo Agudelo: Implementation of a Simple and Efficient Template Matching Algorithm (Master Project, 2002).

Participations to European Projects

myCopter: Enabling Technologies for Personal Aerial Transportation Systems (2011 to 2015).

PEGASE: HelicoPter and aEronef naviGation Airborne System Experimentations (2006 to 2009).

DYVINE: DYnamic VIsual NEtwork (2006 to 2009).

PHAROS: Platform for searcHing of Audiovisual Resources across Online Spaces (2006 to 2009).

STAR: Service Training through Augmented Reality (2001 to 2004).

VIBES: Video Browsing, Exploration and Structuring (2001 to 2004).

Industrial Collaborations

WillowGarage, American robotics company.

Ubisoft, French video game company.

ARmusement, Norwegian company in multimedia.

Total Immersion, French company in Augmented Reality.

Seac02, Italian company in Augmented Reality.

Dartfish, Swiss company in video analysis.

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Publications

Refereed Journals

[1] S. Hinterstoisser, V. Lepetit, S. Benhimane, P. Fua, N. Navab. Learning Real-Time Perspective Patch Rectification. *International Journal of Computer Vision* (**IJCV**) (2011).

[2] A. Fossati, M. Dimitrijevic, V. Lepetit, P. Fua. From Canonical Poses to 3-D Motion Capture using a Single Camera. *IEEE Transactions on Pattern Analysis and Machine Intelligence* (**PAMI**) (2010). 2009 ISI impact factor: **4.378**.

[3] K. Kim, V. Lepetit, W. Woo. Scalable Real-time Planar Targets Tracking for Digilog Books. *Computer Graphics International* (2010).

[4] K. Konolige, J. Bowman, J.D. Chen, P. Mihelich, M. Calonder, V. Lepetit, P. Fua. View-Based Maps. *International Journal of Robotics Research* (2010). 2009 JCR 2 year impact factor: **1.993**.

[5] M. Ozuysal, M. Calonder, V. Lepetit, P. Fua. Fast Keypoint Recognition using Random Ferns. *IEEE Transactions on Pattern Analysis and Machine Intelligence* (**PAMI**) (2010). 2009 ISI impact factor: **4.378**.

[6] E. Tola, V. Lepetit, P. Fua. Daisy: An Efficient Dense Descriptor Applied to Wide Baseline Stereo. *IEEE Transactions on Pattern Analysis and Machine Intelligence* (**PAMI**) (2010). 2009 ISI impact factor: **4.378**.

[7] V. Lepetit, F. Moreno-Noguer, P. Fua. EPnP: An Accurate $O(n)$ Solution to the PnP Problem. *International Journal of Computer Vision* (**IJCV**) *81*, 2 (2009), pp. 155–166. 2008 ISI impact factor: **5.358**.

[8] J. Pilet, V. Lepetit, P. Fua. Fast Non-Rigid Surface Detection, Registration and Realistic Augmentation. *International Journal of Computer Vision* (**IJCV**) *76*, 2 (2008). 2008 ISI impact factor: **5.358**.

[9] M. Dimitrijevic, V. Lepetit, P. Fua. Human Body Pose Detection Using Bayesian Spatio-Temporal Templates. *Computer Vision and Image Understanding* (**CVIU**) *104*, 2-3 (2006), pp. 127–139. 2006 ISI impact factor: **1.548**.

[10] V. Lepetit, P. Fua. Keypoint Recognition using Randomized Trees. *IEEE Transactions on Pattern Analysis and Machine Intelligence* (**PAMI**) *28*, 9 (2006), pp. 1465–1479. 2006 ISI impact factor: **4.306**.

[11] V. Lepetit, P. Fua. Monocular Model-Based 3D Tracking of Rigid Objects: A Survey. *Foundations and Trends in Computer Graphics and Vision 1*, 1 (2005), pp. 1–89.

[12] L. Vacchetti, V. Lepetit, P. Fua. Stable Real-Time 3D Tracking using Online and Offline Information. *IEEE Transactions on Pattern Analysis and Machine Intelligence* (**PAMI**) *26*, 10 (2004), pp. 1385–1391. 2003 ISI impact factor: **3.8**.

Refereed Conferences

[13] R. Rigamonti, M. Brown, V. Lepetit. Is Sparsity Really Relevant for Image Classification? *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2011. Poster.

[14] M. Calonder, V. Lepetit, P. Fua. BRIEF: Binary Robust Independent Elementary Features. *In : European Conference on Computer Vision* (**ECCV**). 2010. Poster.

[15] M. Calonder, V. Lepetit, P. Fua. Pareto-optimal Dictionaries for Signatures. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2010. Poster, Acceptance rate: **22.3%**.

[16] S. Hinterstoisser, V. Lepetit, S. Ilic, P. Fua, N. Navab. Dominant Orientation Templates for Real-Time Detection of Texture-Less Objects. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2010. Poster, Acceptance rate: **22.3%**.

[17] K. Kim, V. Lepetit, W. Woo. Keyframe-based Modeling and Tracking of Multiple 3D Objects. *In : International Symposium on Mixed and Augmented Reality* (**ISMAR**). 2010. Oral.

[18] W. Lee, Y. Park, V. Lepetit, W. Woo. Point-and-Shoot for Ubiquitous Tagging on Mobile Phones. *In : International Symposium on Mixed and Augmented Reality* (**ISMAR**). 2010. Oral.

[19] A. Lucchi, K. Smith, R. Achanta, V. Lepetit, P. Fua. A Fully Automated Approach to Segmentation of Irregularly Shaped Cellular Structures in EM Images. *In : Conference on Medical Image Computing and Computer Assisted Intervention* (**MICCAI**). 2010.

[20] E. Molla, V. Lepetit. Augmented Reality for Board Games. *In : International Symposium on Mixed and Augmented Reality* (**ISMAR**). 2010. Poster.

[21] E. Serradell, M. Ozuysal, V. Lepetit, P. Fua, F. Moreno-Noguer. Combining Geometric and Appearance Priors for Robust Homography Estimation. *In : European Conference on Computer Vision* (**ECCV**). 2010. Poster.

[22] M. Calonder, V. Lepetit, P. Fua, K. Konolige, J. Bowman, P. Mihelich. Compact Signatures for High-Speed Interest Point Description and Matching. *In : International Conference on Computer Vision* (**ICCV**). 2009. **Oral**.

[23] F. J. Estrada, P. Fua, V. Lepetit, S. Süsstrunk. Appearance-based Keypoint Clustering. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2009. Poster, Acceptance rate: **22%**.

[24] S. Hinterstoisser, O. Kutter, N. Navab, P. Fua, V. Lepetit. Real-time learning of Accurate Patch Rectification. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2009. **Oral**, Acceptance rate: **4.2%**.

[25] K. Konolige, J. Bowman, J.D. Chen, P. Mihelich, M. Calonder, V. Lepetit, P. Fua. View-Based Maps. *In : Robotics: Science and Systems Conference (***RSS***)*. 2009.

[26] F. Moreno-Noguer, M. Salzmann, V. Lepetit, P. Fua. Capturing 3D Strechable Surfaces from Single Images in Closed-Form. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2009. Poster, Acceptance rate: **22%**.

[27] M. Ozuysal, V. Lepetit, P. Fua. Pose Estimation for Category Specific Multiview Object Localization. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2009. Poster, Acceptance rate: **22%**.

[28] Y. Park, V. Lepetit, W. Woo. ESM-Blur: Handling and Rendering Blur in 3D Tracking and Augmentation. *In : International Symposium on Mixed and Augmented Reality* (**ISMAR**). 2009. **Oral**.

[29] C. Scherrer, J. Pilet, V. Lepetit, P. Fua. Souvenirs du Monde des Montagnes. *In : ACM SIGGRAPH Art Sessions*. 2009. **Oral**.

[30] K. Smith, A. Carleton, V. Lepetit. Rays Features for Learning Irregular Shapes. *In : International Conference on Computer Vision* (**ICCV**). 2009. Poster.

[31] M. Calonder, V. Lepetit, P. Fua. Keypoint Signatures for Fast Learning and Recognition. *In : European Conference on Computer Vision* (**ECCV**). 2008. Poster, Acceptance rate: **23%**.

[32] S. Hinterstoisser, S. Benhimane, V. Lepetit, P. Fua, N. Navab. Simultaneous Recognition and Homography Extraction of Local Patches with a Simple Linear Classifier. *In : British Machine Vision Conference* (**BMVC**). 2008. Poster, Acceptance rate: **35%**.

[33] S. Hinterstoisser, S. Benhimane, N. Navab, P. Fua, V. Lepetit. Online Learning of Patch Perspective Rectification for Efficient Object Detection. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2008. Poster, Acceptance rate: **28%**.

[34] P. Lagger, M. Salzmann, V. Lepetit, P. Fua. 3D Pose Refinement from Reflections. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2008. **Oral**, Acceptance rate: **4.0%**.

[35] F. Moreno-Noguer, V. Lepetit, P. Fua. Pose Priors for Simultaneously Solving Alignment and Correspondence. *In : European Conference on Computer Vision* (**ECCV**). 2008. Poster, Acceptance rate: **23%**.

[36] Y. Park, V. Lepetit, W. Woo. Multiple 3D Object Tracking for Augmented Reality. *In : International Symposium on Mixed and Augmented Reality* (**ISMAR**). 2008. **Oral**.

[37] M. Salzmann, F. Moreno-Noguer, V. Lepetit, P. Fua. Closed-Form Solution to Non-Rigid 3D Surface Registration. *In : European Conference on Computer Vision* (**ECCV**). 2008. Poster, Acceptance rate: **23%**.

[38] C. Scherrer, J. Pilet, P. Fua, V. Lepetit. The Haunted Book. *In : International Symposium on Mixed and Augmented Reality* (**ISMAR**). 2008. Poster.

[39] K. Smith, A. Carleton, V. Lepetit. General Constraints for Batch Multiple-Target Tracking Applied to Large-Scale Videomicroscopy. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2008. Poster, Acceptance rate: **23%**.

[40] E. Tola, V. Lepetit, P. Fua. A Fast Local Descriptor for Dense Matching. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2008. **Oral**, Acceptance rate: **4%**, **53 citations**.

[41] S. Benhimane, A. Ladikos, V. Lepetit, N. Navab. Linear and Quadratic Subsets for Template-Based Tracking. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2007. Poster, Acceptance rate: **23%**.

[42] A. Fossati, M. Dimitrijevic, V. Lepetit, P. Fua. Bridging the Gap between Detection and Tracking for 3D Monocular Video-Based Motion Capture. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2007. Poster, Acceptance rate: **23%**.

[43] F. Moreno-Noguer, V. Lepetit, P. Fua. Accurate Non-Iterative $O(n)$ Solution to the PnP Problem. *In : International Conference on Computer Vision* (**ICCV**). 2007. **Oral**, **32 citations**.

[44] M. Ozuysal, P. Fua, V. Lepetit. Fast Keypoint Recognition in Ten Lines of Code. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2007. Poster, Acceptance rate: **23%**, **86 citations**.

[45] J. Pilet, V. Lepetit, P. Fua. Retexturing in the Presence of Complex Illuminations and Occlusions. *In : International Symposium on Mixed and Augmented Reality* (**ISMAR**). 2007. **Oral**.

[46] M. Salzmann, V. Lepetit, P. Fua. Deformable Surface Tracking Ambiguities. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2007. Poster, Acceptance rate: **23%**.

[47] M. Ozuysal, V. Lepetit, F. Fleuret, P. Fua. Feature Harvesting for Tracking-by-Detection. *In : European Conference on Computer Vision* (**ECCV**). 2006. **Oral**, Acceptance rate: **4.4%**, **35 citations**.

[48] J. Pilet, A. Geiger, P. Lagger, V. Lepetit, P. Fua. An All-In-One Solution to Geometric and Photometric Calibration. *In : International Symposium on Mixed and Augmented Reality* (**ISMAR**). 2006. **Oral**.

[49] M. Dimitrijevic, V. Lepetit, P. Fua. Human Body Pose Recognition Using Spatio-Temporal Templates. *In : ICCV Workshop on Modeling People and Human Interaction*. 2005. **22 citations**.

[50] D. Fidaleo, G. Medioni, P. Fua, V. Lepetit. An Investigation of Model Bias in 3D Face Tracking. *In : ICCV Workshop on Analysis and Modeling of Faces and Gestures*. 2005.

[51] V. Lepetit, P. Lagger, P. Fua. Randomized Trees for Real-Time Keypoint Recognition. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2005. Poster, Acceptance rate: **21.6%**, **150 citations**.

[52] J. Pilet, V. Lepetit, P. Fua. Augmenting Deformable Objects in Real-Time. *In : International Symposium on Mixed and Augmented Reality* (**ISMAR**). 2005. **Oral**.

[53] J. Pilet, V. Lepetit, P. Fua. Real-Time Non-Rigid Surface Detection. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2005. **Oral**, Acceptance rate: **6.5%**, **Best paper award**, **47 citations**.

[54] V. Lepetit, J. Pilet, P. Fua. Point Matching as a Classification Problem for Fast and Robust Object Pose Estimation. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2004. **Oral**, Acceptance rate: **6.2%**, **77 citations**.

[55] L. Vacchetti, V. Lepetit, P. Fua. Combining Edge and Texture Information for Real-Time Accurate 3D Camera Tracking. *In : International Symposium on Mixed and Augmented Reality* (**ISMAR**). 2004. **Oral**, **126 citations**.

[56] N. Gehrig, V. Lepetit, P. Fua. Golf Club Visual Tracking for Enhanced Swing Analysis Tools. *In : British Machine Vision Conference* (**BMVC**). 2003. Poster, **Best Demo Award**.

[57] V. Lepetit, A. Shahrokni, P. Fua. Robust Data Association For Online Applications. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2003. Poster, Acceptance rate: **16.5%**.

[58] V. Lepetit, L. Vacchetti, D. Thalmann, P. Fua. Fully Automated and Stable Registration for Augmented Reality Applications. *In : International Symposium on Mixed and Augmented Reality* (**ISMAR**). 2003. **Oral**, **95 citations**.

[59] A. Shahrokni, V. Lepetit, P. Fua. Bundle Adjustment for Markerless Body Tracking in Monocular Video Sequences. *In : ISPRS workshop on Visualization and Animation of Reality-based 3D Models*. 2003.

[60] L. Vacchetti, V. Lepetit, P. Fua. Fusing Online and Offline Information for Stable 3–D Tracking in Real-Time. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2003. **Oral**, Acceptance rate: **6.6%**, **38 citations**.

[61] L. Vacchetti, V. Lepetit, G. Papagiannakis, M. Ponder, P. Fua, N. Magnenat-Thalmann, D. Thalmann. Stable Real-Time Interaction Between Virtual Humans and Real Scenes. *In : International Conference on 3-D Digital Imaging and Modeling*. 2003. **Oral**.

[62] A. Shahrokni, L. Vacchetti, V. Lepetit, P. Fua. Polyhedral Object Detection and Pose Estimation for Augmented Reality Applications. *In : Computer Animation*. 2002. **Oral**.

[63] V. Lepetit, M.-O. Berger. An Intuitive Tool for Outlining Objects in Video Sequences : Applications to Augmented and Diminished Reality. *In : International Symposium of Mixed Reality*. 2001. Poster.

[64] V. Lepetit, M.O. Berger. A Semi-Automatic Method for Resolving Occlusions in Augmented Reality. *In : Conference on Computer Vision and Pattern Recognition* (**CVPR**). 2000. Poster, Acceptance rate: **33%**, **33 citations**.

[65] V. Lepetit, M.-O. Berger. Handling Occlusions in Augmented Reality Systems: A Semi-Automatic Method. *In : International Symposium on Augmented Reality*. 2000. **Oral**.

[66] G. Simon, V. Lepetit, M.-O. Berger. Registration Methods for Harmonious Integration of Real Worlds and Computer Generated Objects. *In : Computer Graphics Forum, Conference Issue Eurographics'99*. 1999. **Oral**.

[67] G. Simon, V. Lepetit, M.-O. Berger. Computer Vision Methods for Registration : Mixing 3D Knowledge and 2D Correspondences for Accurate Image Composition. *In : International Workshop on Augmented Reality*. 1998. **Oral**.