Andrea Giachetti – Curriculum Vitae

Personal information

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Current position (11/2021)	**Associate Professor,** Department of Computer Science University of Verona SSD: INF/01. Requested SSD change to ING-INF05 in November 2021 (approved in Department Council on Dec. 7, 2021)
2019 -	Associate Researcher – CNR IMATI, Genova
2015-	President of the **Italian chapter of Eurographics association** (www.eg-italy.org)
2020-	vice-president of **Circolo di Trento di Legambiente** (www.legambientetrento.it)

Other qualifications	
2000	Qualification as Mathematics and Physics teacher for the Secondary School in Italy (exam held in Bolzano/Bozen).
2017	**Qualification as full professor 09/H1 Sistemi di Elaborazione delle Informazioni**

Previous experiences

2013 -2020	President of Circolo di Trento di Legambiente (www.legambientetrento.it)
2004 - 2010	Scientific consultant at **Centro di Ricerca, Sviluppo e Studi Superiori in Sardegna (CRS4)**
2004-2006	Assistant professor in the department of Computer Science of the University of Cagliari.
2002-2004	Head of the **"Image processing and physical simulation"** in the Biomedical Application Area of CRS4 coordinating a group of 4 people), being key staff of various EU funded projects.
1999-2001	Expert researcher at CRS4
1997-1999	Researcher at CRS4
11/96-1/97	Consultant at CNR-ICB, Genova
11-96	Teaching activity in High schools
7/96	Scientific consultant at CRS4 Cagliari.
4/93-9/93	Elsag Bailey research fellowship

Background

1997	**Ph. D. in Physics** from the University of Genova, Italy. Thesis: "Ricostruzione del moto da sequenze di immagini"
1993	**Master Degree in Physics** from the University of Genova, Italy (110/110 cum laude)
2000	Professional course on Imaging in Radiology and RIS-PACS integration.

Teaching

Current courses

- "**Human-Computer interaction**" of the Masters' Degree in Engineering and Computer Science and Masters' degree in Computer Engineering for Robotics and smart industry (2012 -)
- "**Computer Graphics**" of the bachelor degree in Computer Science (2011 -)
- "**Fundamentals of Computer Graphics**" for the Master in Computer Game Development.
- **Data Visualization** Masters' degree in Computer Engineering for Robotics and smart industry (2012 -)

Past courses

2014-2019 "Image and volume data analysis", Master Degree in Engineering and Computer Science

2016 - Ph.D. course on **"Medial representations for 3D shape analysis"**.

2010-14 **Elaborazione Immagini in Medicina/Elaborazione dati Biomedici**

2007-2010 **Elaborazione Immagini in Medicina** (5 cfu) Laurea in Sistemi Intelligenti e Multimediali

2008-2012 **Tecnologie Informatiche e Multimediali** (6cfu) Bachelor degree, Faculty of Education, University of Verona.

2007-2010 **Informatica 2** (4 cfu) Master degree, Faculty of Education, University of Verona.

2007/2008 **Fondamenti di Informatica** (8- cfu) Bachelor degree, Faculty of Education, University of Verona.

2004-2008 **Elaborazione Immagini e Visione Computazionale** Master degree in Computer Science, University of Cagliari (6 cfu).

2006/2007 **Laboratorio di Programmazione** (6 cfu) e **Programmazione Orientata agli Oggetti** Bachelor degree in Computer Science, University of Cagliari (6 cfu).

2004-2006 **Laboratorio di Programmazione** (6 cfu) Bachelor degree in Computer Science, University of Cagliari (6 cfu).

2003/2004 **Laboratorio IV (Sistemi Operativi)** bachelor degree in Computer Science, University of Cagliari (3 cfu).

2000-2004 "**Fondamenti di Informatica**" bachelor degree in Earth Sciences, University of Cagliari (6 cfu).

Other teaching activities

- Organization of the Summer School **International School on Graphics and Geometry Processing for Digital Manufacturing** Brescia Oct. 26-18, 2018
- Lecture on **Shape, appearance and relighting from multi-Light image collections** Tutorial "Methods for photographic radiometry, modeling of light transport and material appearance", International Conference on 3D Vision, 3DV 2018, Verona, 5-8/9 2018
- Lecture in the tutorial "**Towards the virtual physiological human**" at the Eurographics 2007 conference, Prague.
- Organization and teaching in the "**First Summer School of the EU Project 3D anatomical human**" Pula (CA, Italy), May 2008.

Students' supervision

Supervision of Ph.D. Activity of the following students: Marco Emporio (2021-), Filippo Andrea Fanni (2019-), Tinsae Gebrechristos Dulecha (2018-2021), Ariel Caputo (2015-2018).

With prof. Carlo Zancanaro, co-supervisor the Ph.D. thesis of Christian Lovato (Multimodal imaging in medicine, 2013). With prof. Daniele.Giusto, co-tutor of the Ph.D activity of Barbara Podda at the University of Cagliari.

Supervisor of 15 Master theses in Computer Science and more than 50 bachelor theses in Computer Science at UNIVR, as well as 3 bachelor and 2 Master theses at the faculty of Education.

Supervisor of 3 master theses in Computer Science at the University of Cagliari.

He has been **external reviewer for 5 PhD theses** (University of Cagliari, University of Venice, University of Genoa, University of Rome-La Sapienza)

Department roles

- **Current:**
  - ◦ Programme Director of the Masters' degree in Computer Engineering for Robotics and Smart Industry
  - ◦ Project Manager Tecnologia Abilitanti 2. Augmented Reality, Additive manufacturing, Progetto di Eccellenza Dipartimento di Informatica
  - ◦ Member of Council of the PhD School in Computer Science - Department Computer Science - UNIVR
  - ◦ Component of Collegio Didattico di Informatica - Department Computer Science - UNIVR
  - ◦ component of the scientific committee of Master in Computer game development (I livello) - Department Computer Science - UNIVR
  - ◦ member of the Computer Science Department Council - UNIVR

- **Past roles:** Member of joint commission (Commissione Paritetica docenti-studenti) Scuola di Scienze e Ingegneria, member of the Department Board of the department Computer Science of UNIVR. President of the spinoff commission of the department of Computer Science, contact person for Quality Evaluation (AVA) for the Master Degree in Engineering and Computer Science, and in the commission for the evaluation of applications for teaching contracts.

Research projects' management and contributions

- 2020- **Hybrid Sustainable Worlds (**POR FESR 2014-2020, azione 1.1.4 DGR 822/2020, local coordinator)
- 2019 Royal Society of Edinburgh & CNR (Italy). Cultural Heritage: **Modelling the challenge to visitor flow in specific historic buildings**
- 2018 - **Excellence Research MIUR** Computer Engineering for Industry 4.0
- Responsible of the UNIVR unit in the PRIN2015 project **DSurf:** Scalable Computational methods for 3D printing surfaces
- Co-responsible (with Claudia Daffara) of the Verona unit of the Horizon 2020 project **Scan4Reco** Grant Agreement No: 665091 [H2020-REFLECTIVE-7-2014] Advanced 3D modelling for accessing and understanding European cultural assets
- Key personnel in Marie Curie RTN **3D Anatomical Human (MRTN-CT-2006-035763 October 2006 - September 2010).**
- Technical Project Manager of the European project **AQUATICS**, part of the cluster **EUTIST-M** (IST-1999-20226/AQUATICS),
- Key personnel in the project URBAN (MIUR D. D. 784 Ric. 24/07/2001) aimed at the reconstruction of functional brain models from histological sections, in the project **COHERENT (IST-FP6-510166),**
- Key personnel in the project **ViVa** (Virtual Vascular, Eureka program 1997-99)
  in the project MedOW (funded by MIUR) and of the project **IERAPSI (IST-1999-12175).**
- Member of Cagliari Unit of the PRIN 2006 Tecniche di Indicizzazione e Reperimento di Forme

Tridimensionali (3-SHIRT)
- Coordinator of a FP7 STREP proposal (**SANDMED**, Virtual Physiological Human) positively evaluated but not funded in 2012.
- Head of the Verona unit in another STREP proposal positively scored but not funded (SINEMA).
- Member of the Verona unit in the PRIN 2009 proposal SHAMAN and leader of the Verona Unit in the proposal PRIN 2010-2011 ATMAN that passed the first selection but was not funded.

Research grants

- 38000 Euro - 2021– **Prima Industries** – AI solutions for laser cutting machine
- 7000 Euro 2020 – **TR2 Srls** Supporto scientifico per sviluppo algoritmi di A.I.
- 30000 **The Edge Company** to develop interaction tools for Virtual and Augmented Reality
- 3000 Euros 2019 Royal Society of Edinburgh & CNR (Italy). Cultural Heritage: **Modelling the challenge to visitor flow in specific historic buildings**
- 72736 Euros for UNIVR unit in **DSurf: scalable Computational method for 3D printing surfaces (PRIN 2015)**
- 379000 Euros together with Claudia Daffara for the Verona Unity of the European Project (RIA Action) **Scan4Reco [H2020-REFLECTIVE-7-2014]** Advanced 3D modelling for accessing and understanding European cultural assets
- Principal Investigator for an industrial-research project named **"Analisi e codifica compatta di video tennistici"** funded by Fondo Sociale Europeo, 24000 Euros, 1 temporary research associate hired (2014)
- Principal Investigator for an industrial-research project named **"Ricostruzione 3D e analisi della forma del piede per l'industria calzaturiera"** funded by European Social Fund, 24000 Euros, 1 temporary research associate hired (2013)
- 1456 Euros from the University of Verona for the PRIN 2012 proposal ATMAN
- 2903 Euros from University of Verona for the SANDMED 2012 European proposal
- 1500 Euros for a UNIVR-Cooperint type B grant (2013), project **Detection and localization of retinal diseases: analyzing experts' annotations to develop robust automatic techniques.**

Project reviewing

- **Expert reviewer for the European commission** for evaluation and monitoring of research projects (three revews performed).

- Member of the Register of Experts of the Italian ministry of University and Scientific Research.

Other roles

- State of the Art Chair **Eurographics 2019 conference,** Genova
- Local chair of **3DV 2018**, Verona
- **Program chair** of **STAG 2017** (Smart Tools and Applications in computer Graphics), Catania September 2017
- **Program chair** of the Eurographics Workshop on **3D Object Retrieval 2016, Lisbon**.
- **Doctoral Consortium Chair CHItaly 2017, Cagliari**
- **Best thesis** award chair **STAG Smart Tools and Apps for Graphics 2016, Genova.**
- Program chair for the conference **STAG Smart Tools and Apps for Graphics** 2014 Cagliari - September 22-23, 2014).
- **Local Chair** of the conference **STAG 2015** (Smart Tools and Applications in computer Graphics, Verona, 15-16/10 2015)
- Co-organizer of **Eurographics Italian Chapter Conference 2009,** Verona
- **Guest editor** for the Special Issue **"Smart Sensors Data Processing and Visualization in Cultural Heritage"** of Sensor Journal (2020)
- **Associate editor** of Computers and Graphics journal for special issues on STAG 2017 and 5TAG 2015 and of Journal of Graphics Tools for special issue on STAG 2014.
- Former member of the editorial committee of the journal ISRN Signal Processing

- **Program committee member** of the following conferences: Eurographics 2019, Eurographics GCH 2019/2018/2017/2016, BMVC2019/2018, MIUA 2017, Eurographics Workshop on 3D Object Retrieval 2019/2018/2017, 3DOR 2016, 3DOR 2015, EG STAG 2016, 2015, 2014, 3D Body Scanning Technologies 2012-2016, AVSS2013, NORDIA 2012, IARIA-ICDT 2009-2013, HSI2010 track on Human Machine Interaction, 3D Physiological Human 2009, 3D Physiological Human 2008.
- **Contests' organization.**
  ◦ Organizer of the contest on **SHREC'21 Track on Skeleton-based Hand Gesture Recognition in the Wild** within the Eurographics Workshop on 3D Object Retrieval 2021.
  ◦ Organizer of the contest on **SHREC'19 track: Online gesture recognition** within the Eurographics Workshop on 3D Object Retrieval 2019.
  ◦ Co-organizer of the contest on **SHREC'17 track: Retrieval of surfaces with similar relief patterns** within the Eurographics Workshop on 3D Object Retrieval 2017.
  ◦ Organizer of the contest on **Retrieval of Human Subjects from Depth Sensor Data** within the Eurographics Workshop on 3D Object Retrieval 2016.
  ◦ Organizer of the contest on **Retrieval of nonrigid and textured shapes from low quality scans** within the Eurographics Workshop on 3D Object Retrieval 2015.
  ◦ Organizer ofthe contest on **Automatic Location of Landmarks used in Manual Anthropometry** within the Eurographics Workshop on 3D Object Retrieval 2014.

- **Reviewing**. Reviewer for the journals:
  ◦ Medical Image Analysis, Journal on Computing and Cultural Heritage, Image and Vision Computing, IEEE Transactions on Image Processing, IEEE Transactions on Medical Imaging, IEEE Transactions on Biomedical Engineering, Computer Graphics Forum, Pattern Recognition Letters, Computer Vision and Image Understanding, Plos ONE, Computers and Graphics, IEEE Journal of Biomedical and Health Informatics, Journal of Visual Communication and Image Representation, Artificial Intelligence in Medicine, IEEE Transactions on circuits and systems for video technology, Computer Methods and Programs in Biomedicine, Signal, Image and Video Processing; Computer-Aided Design; International Journal of Biomedical Imaging, SPIE Journal on Medical Imaging, SPIE Journal on Electronic imaging, Computers in Biology and Medicine, Journal of Medical and Biological Engineering, IET Image Processing, Parallel Computing, ETRI Journal, EURASIP Journal on Image and Video Processing, ELCVIA, CAIM Journal, 3D Research, Image Communication, IET Science, Measurement & Technology, Biocybernetics and Biomedical Engineering and for the conferences: CVPR 2022/21/20, ISBI 2019, Eurographics 2017-2019, IEEE-VR 2019, ISBI 2017, Chitaly 2017-2019, CGI 2017, MIUA 2017-2019, OMIA 2017, British Machine Vision Conference 2011-2020, MICCAI 2016, BMVC 2005-2007, ICIAP 2015-2017, ACM Siggraph 2005, VRYPHYS 2005, SPBG 2006, IASTED CGIM 2007, 3D Physiological Human 2008, 2009.
- **Memberships** Eurographics, CVPL

Visiting experiences
Feb-March 2014 University of Dundee (UK), CVIP group (prof. E.Trucco) 1 month

Invited talks
- Robust methods for shape analysis - University of Lugano (2012)
- 3D shape analysis methods and applications (2014) - University of Dundee
- Processing human 3D models and extracting measurements for indirect body fat estimation - Robert Gordon University, Aberdeen (2014)
- 3D shape analysis methods and applications IMATI - Genova (2015)
- 3D shape analysis methods and applications IIT - Genova (2016)

Awards

Best paper award Eurographics workshop on Graphics and Cultural Heritage 2017 (GCH) Graz: A. Giachetti, I Ciortan, C Daffara, R Pintus, E Gobbetti **Multispectral RTI analysis of heterogeneous artworks**

Best paper award EG Smart Tools and Apps in computer Graphics 2017 – Catania, Sept 11-12 2017: Fabio Marco Caputo, Pietro Prebianca, Alessandro Carcangiu, Lucio D. Spano, and Andrea Giachetti **A 3 Cent Recognizer: Simple and Effective Retrieval and Classification of Mid-air Gestures from Single 3D Traces**

Research topics

HCI, interaction and gesture recognition. I recently worked on interaction analysis, in particular for mixed reality applications. A research line was dedicated to the development of novel gestural interaction paradigms for interaction in immersive virtual reality (particularly manipulation) [A30, A31, B88, B86, B76]. I worked also on navigation techniques, in particular analyzing design choices for sickness reduction [B110, B106, B101, B79] and on the design of effective solution for mixed reality interface development [B106].

This research is conducted with the collaboration of different partners (University of Trento, University of Padova, University of Cagliari, IMATI-CNR, IST Lisbon) and also within the Hybrid Worlds project.
I also investigate methods for hand gesture recognition, in particular for online recognition of heterogeneous gestures, developing novel method based on trajectory matching and Neural Networks and creating new benchmarks [A42, A38, A32, B111, B98, B87, B77].

Patterns, design and 3D printing. I am currently working on methods for the design of decorative patterns over manifolds in the 3D space. This work is ongoing, in collaboration with University of Roma-La Sapienza (F.Pellacini) and University of Cagliari (R.Scateni) [C9]. With the PhD activity of Filippo Andrea Fanni and within the activities of the Industrial Computer Engineering lab, I am also working on decomposition of shapes in custom and 3D printed LEGO blocks [B112]. Another interesting aspects is related to the description and recognition of patterns, as well to the semantic description of textures and I am working on it at UniVR in collaboration with prof. M.Cristani [B108, B100, B99].

Computer Vision. I recently worked on characterization of surfaces from multi-light image capture also applied in the domain of Cultural Heritage. For example, in the framework of the EU project Scan4Reco I worked on acquisition (hardware and protocols) and processing methods (algorithms and software) to characterize appearance and roughness of materials used in artworks. This work has been performed also with the collaboration of CRS4 (Enrico Gobbetti) and resulted in several publications related to Reflectance Transformation Imaging, image visualization, Photometric Stereo. [A40, A35, A29, B109, B103, B96, B95, B89, B85, B81, B80, B74, B63]. The project aimed at characterize materials' features and aging using multimodal acquisition. In the D-Surf PRIN project I also worked on characterization of surface properties from images. In the PhD thesis of Tinsae Dulecha we also worked on relightable images based on autoencoders and on novel Photometric Stereo benchmarks [A39, B107]. Currently I am responsible of industrial projects exploiting Computer Vision systems for the analysis of manufactured objects.

Shape analysis. I worked on the development of methods for salient points recognition, skeleton extraction and segmentation of 3D models, with relevant applications on anthropometric studies [B45, B47, B48, B53, B56]. In particular, I designed a method to characterize radial (spherical and cylindrical) symmetries in 3D models the Area Projection Transform [A17], useful also to compute shape signatures and applied with success on different shape retrieval tasks, e.g. protein shape retrieval, relief patterns retrieval, human body shape retrieval. I organized several shape retrieval contests. [B45, B47, B48, B52, B56, B67, B68, B69, B73, B78, B83, B90, B105, A25, A27, A34, A36, A37, A41]. I also developed with Valeria Garro a novel graph-based shape characterization method using spectral analysis on the Riemannian manifold, graph-based encoding of shapes, and graph matching techniques [A26]. I worked on algorithms for curve skeleton estimation, [B47, B65], pose estimation, salient points matching. This

research is carried on in collaboration with CNR-IMATI.

Digital Anthropometry- I am collaborating with professor Carlo Zancanaro (dept. of Neuroscience, Biomedicine and Movement) on projects related to the analysis of the human body. In this context we performed research on automatic analysis of 3D body scanning data for body type characterization and fat estimation [A22, A20, A19] and estimation of composition parameters from depth images [B93].

Medical segmentation and 3D models reconstruction. I developed methods the reconstruction of 3D organ models from medical datasets [A4, A8, B29], working in related tasks of EU-funded projects at CRS4. More recently I was involved in the VAMPIRE project (*https://vampire.computing.dundee.ac.uk*), led by the University of Dundee and focused on the development of software tools for retinal image analysis and on clinical applications. In this project I designed algorithms for retinal features' characterization and I realized parts of software tools used by the research group in clinical studies [A21, A18, B53, B54, B56, B57].

Image Processing. I developed artifact free 2D and 3D image interpolation methods. The ICBI algorithm is quite popular and the implementations available on the site *www.andreagiachetti.it* have been widely tested and used by several researchers [A16, B42, B43]. I also worked on texture analysis methods applied to medical images for classification and segmentation of tissues [B33, B36].

Visualization and interaction. I worked in projects employing light-field displays to create 3D visualization tools [A3, B6, B8], and in this context I developed a gesture based interface for the interaction with 3D models [B40]. I also contributed to the development of a web base visualization tool for medical and neurophysiological studies [A14].

Surgical simulation. In the context of q research project developing surgical simulation tools I worked in tasks related to the integration of tissue classification methods into the interaction framework [A9]

Medical data management and PACS systems. I worked in the development of systems for the handling of medical information in hospitals, testing DICOM connection, supporting connectivity and data interchange in different application, also web based [B8, B11].

Blood flow simulation. He worked in projects aimed at the simulation of blood flow inside vessels, not only reconstructing patient specific vascular models but also working with commercial simulators and tetrahedral mesh builders [A5, B9].

Motion and optical flow. During the period spent at University of Genova, I mainly worked on motion analysis (e.g. development of optical flow estimation algorithms [A6, C7] and motion parameters estimation technique [A2]) applying the techniques developed to several practical applications, like road sequences interpretation for autonomous vehicles [A3, C6], tracking in medical images [A4], biological tissues analysis [A7], satellite images analysis [A11].

Public codes

Demo codes of selected works are available at the web site www.andreagiachetti.it or on https://github.com/giach68. In particular, the Matlab, C and CUDA implementation of ICBI upscaling code and the C++, code for the estimation of Multiscale Area Projection Transform, C++ tools for RTI stack (multi light image) processing.

Scientific publications

Journal Papers

A43) Fanni, FA, Scateni, R., Pellacini F, Giachetti, A. **PAVEL: Decorative Patterns with Packed Volumetric Elements (2021)** ACM Transactions on Graphics, accepted (2021).

A42) Caputo, A., Giachetti, A. et al. **SHREC 2021: Skeleton-based hand gesture recognition in the wild** (2021) Computers and Graphics (Pergamon), 99, pp. 201-211.

A41) Raffo, A., Fugacci, U., Biasotti, S., Rocchia, W., Liu, Y., Otu, E., Zwiggelaar, R., Hunter, D., Zacharaki, E.I., Psatha, E., Laskos, D., Arvanitis, G., Moustakas, K., Aderinwale, T., Christoffer, C., Shin, W.-H., Kihara, D., Giachetti, A., Nguyen, H.-N., Nguyen, T.-D., Nguyen-Truong, V.-T., Le-Thanh, D., Nguyen, H.-D., Tran, M.-T. **SHREC 2021 Track: Retrieval and classification of protein surfaces equipped with physical and chemical properties** (2021) Computers and Graphics (Pergamon), 99, pp. 1-21.

A40) Jaspe-Villanueva, A., Ahsan, M., Pintus, R., Giachetti, A., Marton, F., Gobbetti, E. **Web-based Exploration of Annotated Multi-Layered Relightable Image Models** (2021) Journal on Computing and Cultural Heritage, 14 (2), art. no. 3430846

A39) Dulecha, T. G., Fanni, F. A., Ponchio, F., Pellacini, F., & Giachetti, A. (2020). **Neural reflectance transformation imaging**. *The Visual Computer*, 36, 2161–2174 (2020)

A38) Caputo, A., Giachetti, A., Giannini, F., Lupinetti, K., Monti, M., Pegoraro, M., & Ranieri, A. (2020). **SFINGE 3D: A novel benchmark for online detection and recognition of heterogeneous hand gestures from 3D fingers' trajectories**. Computers & Graphics, 91, 232-242.

A37) Langenfeld, F., Peng, Y., Lai, Y. K., Rosin, P. L., Aderinwale, T., Terashi, G., Giachetti, A. ... & Cabani, A. (2020). SHREC 2020: **Multi-domain protein shape retrieval challenge.** *Computers & Graphics*, *91*, 189-198.

A36) Thompson, E. M., Biasotti, S., Giachetti, A., Tortorici, C., Werghi, N., Obeid, A. S., ... & Tran, M. T. (2020). **SHREC 2020: Retrieval of digital surfaces with similar geometric reliefs.** *Computers & Graphics*, *91*, 199-218.

A35) R Pintus, TG Dulecha, I Ciortan, E Gobbetti, A Giachetti **State-of-the-art in Multi-Light Image Collections for Surface Visualization and Analysis** Computer Graphics Forum 38 (3), 909-934 2019

A34) A. Giachetti **Effective Characterization of Relief Patterns** Computer Graphics Forum 37:5 2018 10.1111/cgf.13493

A33) Andrea Giachetti, Paolo Pingi, Filippo Stanco, **Foreword to the Special Section on Smart Tools and Applications in Computer Graphics 2017**, Computers & Graphics, Volume 74, 2018, Pages A6-A7, ISSN 0097-8493, https://doi.org/10.1016/j.cag.2018.05.009.

A32) FM Caputo, P Prebianca, A Carcangiu, LD Spano, A Giachetti **Comparing 3D trajectories for simple mid-air gesture recognition** Computers & Graphics 73, 17-25 2018

A31) D Mendes, FM Caputo, A Giachetti, A Ferreira, J Jorge **A Survey on 3D Virtual Object Manipulation: From the Desktop to Immersive Virtual Environments** Computer Graphics Forum 38:1 21-45 2019

A30) FM Caputo, M Emporio, A Giachetti, **The Smart Pin: an effective tool for object manipulation in immersive virtual reality environments** Computers & Graphics 2018

A29) A Giachetti, I Ciortan, C Daffara, G Marchioro, R Pintus, E Gobbetti **A Novel Framework for Highlight Reflectance Transformation Imaging** Computer Vision and Image Understanding 168 Issue C, pages 118-131, March 2018

A28) S Biasotti, A Giachetti, M Tarini **Foreword to the Special Section on Smart Tools and Applications in Computer Graphics 2015** Computers & Graphics 60, A3-A4 (2016)

A27) Giachetti A, Isaia L. Garro, V **Multiscale descriptors and metric learning for human body shape retrieval** The Visual Computer 32(6-8): 693-703 (2016)

A26) Garro, V., Giachetti, A., **Scale space graph representation and kernel matching for non rigid and textured 3D shape retrieval** «IEEE Transactions on Pattern Analysis and Machine Intelligence» 38(6): 1258-1271 (2016)

A25) David Pickup, Xianfang Sun, Paul L. Rosin, Ralph R. Martin, Z. Cheng, Zhouhui Lian, Masaki Aono, A. Ben Hamza, Alexander M. Bronstein, Michael M. Bronstein, S. Bu, Umberto Castellani, S. Cheng, Valeria Garro, Andrea Giachetti, Afzal Godil, Luca Isaia, J. Han, Henry Johan, L. Lai, Bo Li, C. Li, H. Li, Roee Litman, X. Liu, Z. Liu, Y. Lu, L. Sun, Gary K. L. Tam, Atsushi Tatsuma, J. Ye: **Shape Retrieval of Non-rigid 3D Human Models.** International Journal of Computer Vision 120(2): 169-193 (2016)

A24) Biasotti, S.; Cerri, A.; Aono, M.; Hamza, A. Ben; Garro, V.; Giachetti, A.; Giorgi, D.; Godil, A.; Li, C.; Sanada, C.; Spagnuolo, M.; Tatsuma, A.; Velasco-Forero, S., **Retrieval and classification methods for textured 3D models: a comparative study** «THE VISUAL COMPUTER» , Volume 32, Issue 2, pp 217-241, 2016

A23) Asuni, Nicola; Giachetti, Andrea, **TESTIMAGES: A Large Data Archive For Display and Algorithm Testing** «JOURNAL OF GRAPHICS TOOLS» , vol. 17 , n. 4 , 2013 , pp. 113-125

A22) Giachetti A,Lovato C,Piscitelli F,Milanese C,Zancanaro C, **Robust automatic measurement of 3D scanned models for human body fat estimation**. «IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS» , 19 (2), 660-667 (2015)

A21) Andrea Giachetti, Lucia Ballerini, Emanuele Trucco, **Accurate and reliable segmentation of the optic disc in**

digital fundus images «JOURNAL OF MEDICAL IMAGING» , vol. 1 , n. 2 , 2014, pp. 1-11, SPIE

A20) Christian Lovato, Umberto Castellani, Carlo Zancanaro, Andrea Giachetti, **Automatic labelling of anatomical landmarks on 3D body scans** «GRAPHICAL MODELS» , vol. 76 , 2014, pp. 648-657 Elsevier

A19) C Milanese, A Giachetti, V Cavedon, F Piscitelli, C Zancanaro **Digital three-dimensional anthropometry detection of exercise-induced fat mass reduction in obese women**, Sport Sciences for Health, 2014, pp. 1-5 Elsevier.

A18) A. Giachetti, L. Ballerini, E. Trucco, P.J. Wilson, **The use of radial symmetry to localize retinal landmarks** «COMPUTERIZED MEDICAL IMAGING AND GRAPHICS» , vol. 37 , n. 5-6 , 2013, pp. 369-376, Elsevier.

A17) Andrea Giachetti, Christian Lovato **Radial Symmetry Detection and Shape Characterization with the Multiscale Area Projection Transform.** COMPUTER GRAPHICS FORUM, vol. 31, p. 1669-1678, ISSN: 0167-7055, doi: 10.1111/j.1467-8659.2012.03172.x (2012) Blackwell Publishing

A16) Giachetti, A. Asuni, N. **Real-Time Artifact-Free Image Upscaling** IEEE Transactions on Image Processing, Volume 20, Number 10, pp. 2760 - 2768 Oct. 2011 IEEE Computer Society Press

A15) M. Agus, F. Bettio, A. Giachetti, E. Gobbetti, J.A. Iglesias Guitián, F.Marton, J. Nilsson, and G. Pintore. **An interactive 3D medical visualization system based on a light field display**. The Visual Computer, 25, 2009.

A14) R. Mongeau, M.A. Casu, L. Pani, G. Pillolla, L. Lianas, A. Giachetti, **Building a virtual archive using brain architecture and Web 3D to deliver neuropsychopharmacology content over the Internet.** Comp. methods and programs in biomedicine, Elsevier, 90(2):124-36, (2008)

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