Riccardo Marin

Curriculum Vitae - updated: March 24, 2021

Research Interests

- Geometry Processing, 3D Generative Models, Deep Learning, Spectral shape Analysis, Computer Graphics and Computer Vision.

Research Profile

I am a Post Doctoral researcher at the Sapienza University of Rome in the Geometric & Visual Computing group led by Emanuele Rodolà. I followed the University of Verona's Ph.D program in Computer Science, under the supervision of professor Umberto Castellani, and I am waiting for the final defence. I graduated in Computer Science and Engineering at University of Verona (2017).

I work on Genereative Models, Deep Learning, Geometry Processing, 3D shape analysis, and Virtual Humans. I was awarded with Best Poster in Computer Science at the PhD Day held by the University of Verona (In May 2018), and with a Best Student Paper Award (3DV 2020).

I served as Volunteer Chair at 3DV 2018, and as reviewer for TCVG, BMVC, 3DV, NeurIPS, GMDL, obtaining also an Outstanding Reviewer Award (3DV 2020). I am involved in many fruitful collaborations (École polytechnique (LIX), Sapienza University of Rome, University College London (UCL), University of Milan, Center for Mind/Brain Science of Trento (CIMeC)).

Academic Appointments

- **Sapienza University of Rome,** Italy - Computer Science department *01/12/2020 - 01/12/2021*
  Post Doctoral researcher (12 months)

- **University of Verona,** Italy - Computer Science department *July 2020*
  Organizer of the graduate school: "Spectral Shape Analysis for 3D matching"

- **University of Verona,** Italy - Computer Science department *March 2019 – June 2019*
  University Tutor for Pattern Recognition.

- **University of Verona,** Italy - Computer Science department *November 2018 – February 2019*
  University Tutor for Image Processing II.

- **University of Verona,** Italy - Computer Science department *March 2018 – June 2018*
  University Tutor for Introduction to Programming.

Education

- **University of Verona,** Italy – Computer Science department *October 2017 – October 2020*
  Enrolled in Ph.D Program in Computer Science.

- **Polytechnic University of Milan,** Italy – Computer Science department *July 2020*
  Attendence at Graduate School on Machine Learning for Non-Matrix Data

- **University of Milan,** Italy – Computer Science department *May 2019*
  Attendence at Graduate School at Symposium on Geometry Processing 2019 (SGP).

- **University of Brescia,** Italy – Computer Science department *October 2018*
  Attendence at International School on Graphics and Geometry Processing for Digital Manufacturing (EGIT) at Italian Chapter of Eurographics (STAG).

- **coursera.org,** deeplearning.ia *August 2017 – July 2018*
  Deep Learning Specialization; held by *Prof. Andrew Ng* (Standford University)
  [Certificate](#)

- **University of Verona,** Italy *2013 – 2017*
  Laurea Specialistica Degree (2 years degree, M.S. equivalent) in Computer Science and Engineering.
  Thesis: *Augmented Reality for training of pretend play in children with Autism Spectrum Disorder.*
  Grade: *103/110*

- **University of Verona,** Italy *2010 – 2013*
  Laurea Degree (3 years degree, B.S. equivalent) in Computer Science.
  Grade: *101/110*

Professional Activities / Academic Service

- **SHREC19 Challenge Track Organizer** *February 2019*
  Eurographics 2019 Workshop on 3D Object Retrieval, *Genova, Italy*.
  Track: Correspondence in Humans with Different Connectivity.
  Web site

- **Volunteers Chair** *September 2018*
  3DV 2018, International Conference on 3D Vision, *Verona, Italy*.

- **Volunteer**
  ICCV 2017, Venice, Italy.
  Eurographics 2019, *Venice, Italy*.

- **High School advanced-class in Computer Skills Teacher** *November 2012 – May 2013*
  ITCS Aldo Pasoli, *Via Girolamo dalla Corte, 15 - 37131 Verona, Italy*.

- **Computer literacy course Teacher** *November 2012 – May 2013*
  ITCS Aldo Pasoli, *Via Girolamo dalla Corte, 15 - 37131 Verona, Italy*.

- **Reviewer**
  - BMVC 2018
  - 3DV 2019, 2020
  - TVCG
  - GMDL 2019
  - NeurIPS 2020
  - ICLR 2021
  - AAAI 2021
  - CVPR 2021
  - International Journal of Industrial Ergonomics
  - ICML 2021
  - Computer and Graphics Journal

Awards

- **Outstanding Reviewer Award** *2021*
  at the International Conference on Learning Representations (ICLR 2021)
- **Best Student Paper Award** *2020*
  at the International Conference on 3D Vision (3DV 2020) with the paper *Instant recovery of shape from spectrum via latent space connections*
- **Outstanding Reviewer Award** *2020*
  at the International Conference on 3D Vision (3DV 2020)
- **Best Poster in Computer Science at the University of Verona's PhD Day** *2018*
  Poster title: *FARM: Functional Automatic Registration Method for 3D Human Bodies*

Funding and Grants

- **Funds for international mobility - long periods** *September 2019 - March 2020*
  Funding: University of Verona (3.5K€)

International Collaborations and Research Visits

- **University College London (UK)** *June 2018*
  Research visit; collaborator *Prof. Niloy Mitra*.

- **École polytechnique (FRA)**
  Research visit; collaborator Prof. Maks Ovsjanikov.

Invited Talks and Seminars

- *Digital Humans: minds and bodies* *2021/03/02*
  The Sapienza School for Advanced Studies; hosted by *Prof. E. Rodolà*.

- *Correspondence Learning via Linearly-invariant Embedding*   2020/11/20
  Sapienza University of Rome; hosted by *Prof. E. Rodolà*.

- *Functional template based matching for human bodies.*   2020/03/04
  École polytechnique; hosted by *Prof. P. Memari*.

- *Introduction to Spectral Graph Theory: from Fourier to 3D models.* 2018/12/18,19,20
  University of Verona; hosted by *Prof. G. Menegaz*.

Supervising and mentoring activities

- *Graduate Student* (*co-advisor*)
  - Filippo Bardon, 2019 (Verona, Thesis)

Participation in industrial innovation

- *Automatic extraction of anthropometric measurements from digital 3D scan of human bodies,* (*phase 1*).
  Role: Researcher. Supported by: *Igoodi S.r.l.*   *27/11/2018 - 15/02/2019*
- *Automatic extraction of anthropometric measurements from digital 3D scan of human bodies,* (*phase 2*).
  Role: Researcher. Supported by: *Igoodi S.r.l.*   *01/08/2019 - 31/01/2020*

Skills

Technical specialties: Software design and implementation, with(in) a team. Expert programming in MATLAB, Python and use of graphic dedicated tools as SMPL framework, Chumpy, OpenDR and libraries for Deep Learning and Data Science as Tensorflow (1 and 2), Keras, Pandas, Scipy and Scikit-learn. Good programming in C/C++. Knowledge of graphic tools as Blender, Povray, ZBrush, Unity.

Natural languages: Italian (*mother tongue*), English (*full professional proficiency*), French (*elementary proficiency*)

List of Publications

- Eleonora Tagliabue, Diego Dall'Alba, Micha Pfeiffer, Marco Piccinelli, **Riccardo Marin**, Umberto Castellani, Stefanie Speidel, Paolo Fiorini, *Data-driven Intra-operative Estimation of Anatomical Attachments for Autonomous Tissue Dissection*. IEEE Robotics and Automation Letters (RA-L), 2021

- **Riccardo Marin**, Marie-Julie Rakotosaona, Simone Melzi, Maks Ovsjanikov, *Correspondence Learning via Linearly-invariant Embedding*. Conference on Neural Information Processing Systems (NeurIPS), 2020.

- Roberto M.Dyke, Yu-Kun Lai, Paul L.Rosin, Stefano Zappalà, Seana Dykes, Daoliang Guo, Kun Li, **Riccardo Marin**, Simone Melzi, Jingyu Yang, *SHREC'20: Shape correspondence with non-isometric deformations*. Computer & Graphics, 2020.

- Roberto M. Dyke, Feng Zhou, Yu-Kun. Lai, Paul L. Rosin, Daoliang Guo, Kun Li, **Riccardo Marin**, Jingyu Yang. *SHREC'20: Non-rigid Shape Correspondence of Physically-Based Deformations*. 13th Workshop on 3D Object Retrieval (3DOR), 2020.

- **Riccardo Marin**, Arianna Rampini, Umberto Castellani, Emanuele Rodolà, Maks Ovsjanikov, Simone Melzi, *Instant recovery of shape from spectrum via latent space connections*. International Conference on 3D Vision (3DV), 2020.

- Simone Melzi, **Riccardo Marin**, Pietro Musoni, Filippo Bardon, Marco Tarini, Umberto Castellani. *Intrinsic/extrinsic embedding representation for functional remeshing of 3D shapes*. Computer & Graphics, 2020.

- **Riccardo Marin**, Simone Melzi, Emanuele Rodolà, Umberto Castellani. *High-Resolution Augmentation for Automatic Template-Based Matching of Human Models*. International Conference on 3D Vision (3DV), 2019.

- **Riccardo Marin**, Simone Melzi, Emanuele Rodolà, Umberto Castellani. *FARM: Functional Automatic Registration Method for 3D Human Bodies*. Computer Graphics Forum (CGF), 2019. Presented at Eurographics (EG), 2020.

- **Riccardo Marin**, Simone Melzi, Niloy Mitra, Umberto Castellani. *POP: full Parametric modelling estimation for Occluded People*. The 12th Eurographics Workshop on 3D Object Retrieval (3DOR), 2019.

- **Riccardo Marin**, Simone Melzi, Pietro Musoni, Filippo Bardon, Marco Tarini, Umberto Castellani. *CMH: Coordinates Manifold Harmonics for Functional Remeshing*. The 12th Eurographics Workshop on 3D Object Retrieval (3DOR), 2019.

- Simone Melzi, **Riccardo Marin**, Pietro Musoni, Umberto Castellani, Marco Tarini. Visual Assessments of Functional Maps. Poster at Symposium on Geometry Processing (SGP), 2019.

- Simone Melzi, **Riccardo Marin**, Emanuele Rodolà, Umberto Castellani, Jing Ren, Adrien Poulenard, Peter Wonka, Maks Ovsjanikov. *SHREC'19: Matching Humans with Different Connectivity*, the 12th Eurographics Workshop on 3D Object Retrieval (3DOR), 2019.