

# Federica Bogo

Curriculum Vitae (Last update: July 2016)

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## Personal information

First name Federica  
Surname Bogo  
Date of birth December 12th, 1983  
Nationality Italian

## Current position

Apr 2016 – present **Research engineer.** Microsoft Research (Cambridge, United Kingdom).

Current research interests *Computer vision/Graphics.* How can we enable machines to perceive and interact with humans? My research focuses on learning realistic models of human body shape and appearance, and using them to fit depth and RGB data. I am also interested in exploring uses of 3D human body models in medical (namely, dermatological) applications.

Past research interests *Networks.* Design and theoretical analysis of routing algorithms for delay-tolerant networks. Analysis of interaction dynamics in social networks.

*High-performance computing and large dataset algorithms.* Development of *psort*, a C++ sorting library for large datasets on external memory.

## Education

Jan 2011 – Mar 2015 **Ph. D., Information Engineering**, Università degli Studi di Padova (Padova, Italy) – Max Planck Institute for Intelligent Systems (Tübingen, Germany).  
Dissertation title: *From scans to models: Registration of 3D human shapes exploiting texture information.* Supervisor: E. Peserico.  
From 2012 to 2015, I was an affiliated Ph. D. student at the Perceiving Systems Department, MPI for Intelligent Systems (Tübingen, Germany), working with J. Romero and M.J. Black.

Oct 2008 – Oct 2010 **M. Sc., Computer Engineering**, Università degli Studi di Padova (Padova, Italy).  
Final grade: 110/110 *cum laude*.

Feb 2006 – Sep 2008 **B. Sc., Computer Engineering**, Università degli Studi di Padova (Padova, Italy).  
Final grade: 110/110 *cum laude*.

Oct 2002 – Dec 2005 **B. Sc., Philosophy**, Università degli Studi di Padova (Padova, Italy).  
Final grade: 110/110 *cum laude*.

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## Work experience

- Apr 2015 – March 2016 **Postdoctoral researcher**, Perceiving Systems Department, Max Planck Institute for Intelligent Systems (Tübingen, Germany).  
Under the supervision of M.J. Black. Development of algorithms for 3D human body modeling and registration. Part of the technology I developed is currently used at BodyLabs Inc., a NY-based startup which commercializes body shape technology.
- Jul 2010 – Dec 2010 **Research assistant**, Università degli Studi di Padova (Padova, Italy).  
Development of segmentation algorithms for dermatological images.
- Jun 2009 – Jun 2010 **Software developer**, Siav Spa (Padova, Italy).  
Full-time employment. Development of software for Enterprise Document Management and Business Process Management (languages: C, C++).
- Sep 2008 – May 2009 **Software developer**, Zucchetti Spa (Padova, Italy).  
Full-time employment. Development of iCASE software for business applications (languages: Java).
- May 2003 – Aug 2003 **Journalist**, Corriere delle Alpi – Finegil Spa (Belluno, Italy).  
Composition and revision of articles for a local newspaper.

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## Teaching experience

- Oct 2011 – Mar 2012 **Teaching assistant**, Università degli Studi di Padova (Padova, Italy). Courses: *Introduction to computer programming*, *Software engineering*.
- Oct 2010 – Mar 2011 **Teaching assistant**, Università degli Studi di Padova (Padova, Italy). Course: *Software engineering*.

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## Publications

- Book chapters** F. Bogo, F. Peruch, A. Belloni Fortina, E. Peserico. Where's the lesion? Variability in human and automated segmentation of dermoscopy images of melanocytic skin lesions. In M.E. Celebi, T. Mendonca, and J.S. Marques, editors, *Dermoscopy Image Analysis*, pp. 67-95. CRC Press, 2015.
- Journal articles** F. Peruch, F. Bogo, M. Bonazza, V. Cappelleri, E. Peserico. Simpler, faster, more accurate melanocytic lesion segmentation through MEDS. *IEEE Transactions on Biomedical Engineering*, 61(2):557–565, 2014.
- Conference articles** F. Bogo, A. Kanazawa, C. Lassner, P. Gehler, J. Romero, M.J. Black. Keep it SMPL: Automatic estimation of 3D human pose and shape from a single image. In *Proc. ECCV*, 2016.
- M. Samory, F. Bogo, E. Peserico. Community structure and interaction dynamics through the lens of quotes. In *Proc. ACM Web Science*, 2016.
- F. Bogo, M.J. Black, M. Loper, J. Romero. Detailed full-body reconstructions of moving people from monocular RGB-D sequences. In *Proc. IEEE ICCV*, pp. 2300–2308, 2015.
- F. Bogo, J. Romero, M. Loper, M.J. Black. FAUST: Dataset and evaluation for 3D mesh registration. In *Proc. IEEE CVPR*, pp. 3794–3801, 2014.
- F. Bogo, J. Romero, E. Peserico, M.J. Black. Automated detection of new or evolving melanocytic lesions using a 3D body model. In *Proc. MICCAI*, 8673:593–600, 2014.

F. Bogo, E. Peserico. Optimal throughput and delay in delay-tolerant networks with ballistic mobility. In *Proc. ACM MOBICOM*, pp. 303–314, 2013.

F. Peruch, F. Bogo, M. Bonazza, M. Bressan, V. Cappelleri, E. Peserico. Simple, fast, accurate melanocytic lesion segmentation in 1D colour space. In *Proc. VISAPP*, pp. 191–200, 2013.

F. Bogo, M. Samory, A. Belloni Fortina, S. Piaserico, E. Peserico. Psoriasis segmentation through chromatic regions and Geometric Active Contours. In *Proc. IEEE EMBC*, pp. 5388–5391, 2012.

**Technical reports** P. Bertasi, F. Bogo, M. Bressan, E. Peserico. *psort 2011*, winner of the PennySort Benchmark 2011. Università degli Studi di Padova, 2011.

**Tutorials** M.J. Black, F. Bogo, N. Mahmood, G. Pons-Moll, J. Romero. Learning human bodies in motion. ACM SIGGRAPH, July 2016.

M.J. Black, F. Bogo, M. Loper, N. Mahmood, G. Pons-Moll, J. Romero. Modelling human bodies. IEEE ICCV, December 2015.

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## Fellowships, grants and awards

Jun 2016 Dataset award, Eurographics Symposium on Geometry Processing (SGP).

Jun 2015 BioRegio STERN Science2Start prize for innovative business projects in life sciences (Stuttgart, Germany).

Jan 2013 Fondazione Ing. Aldo Gini fellowship to conduct research abroad.

Jun 2012 Startup 2012 prize for innovative business projects (Padova, Italy).

May 2012 Google EMEA grant to attend GeeCON (Poznan, Poland).

Jun 2011 PennySort Benchmark winner (<http://sortbenchmark.org>) with the *psort* C++ library. Unbeaten in 2012, 2013, 2014.

Jan 2011 – Dec 2013 Università degli Studi di Padova Graduate Fellowship.

Jul 2010 Research fellowship from Università degli Studi di Padova under project Naevi in Silico.

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## Service to the scientific community

Journal reviewing International Journal of Computer Vision (IJCV), IEEE Transactions on Biomedical Engineering (TBME), The Visual Computer (TVCJ).

Conference reviewing International Conference on Supercomputing (ICS), IEEE Conference on Computer Vision and Pattern Recognition (CVPR), European Conference on Computer Vision (ECCV), Conference on Neural Information Processing Systems (NIPS).

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## Personal skills and competences

### Professional licenses

P.E. Professional Engineer since 2011.

### Languages

Italian **Mother tongue**

English **Fluent**

German **Basic**

### Computer skills

Languages C, C++, Python, Java, Perl

OSes Linux, Windows, Mac OS X

Libraries OpenCV, OpenGL, Android SDK, scikit-learn

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### Interests

Road cycling, reading, chess, mobile development.