General Informations:

name:	Valerio
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date of birth:	16/05/1975, Rome (ITALY)
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current position:	-temporary research fellow[1] at ISTC-CNR, Rome, in European project “GOAL-Robots” (supervisor: Gianluca Baldassarre). -Ph.D student at Plymouth University, UK

Curriculum vitae et studiorum:

- 1993/1994: High School Diploma (50/60), liceo scientifico Farnesina, Rome, ITALY
- 1999/2000: student in Psychology (entry), Università di Roma “Sapienza”.
- 09/03/2006: master’s degree in Psychology, (110/110 with honors) , Università di Roma “Sapienza”
- 01/02/2007 to now: temporary research fellow at Institute for Cognitive Sciences and Technologies, Italian National Research Council (ISTC-CNR, Istituto di Scienze e Tecnologie della Cognizione, Via S. Martino della Battaglia 44, 00185, Roma, ITALY).
- 01/10/2012 to now: PhD student (PhD Computing) at Plymouth University, UK

1: assegno di ricerca fino al gennaio 2017; contratto a tempo determinato dal febbraio successivo.

Research projects:

"ECAgents: Embodied and Communicating Agents",
(coordinator Stefano Nolfi, www.ecagents.org);

"Swarmanoid"
(coordinator Marco Dorigo, www.swarmanoid.org).

"IM-CLeVeR"
(coordinator Gianluca Baldassarre, http://www.im-clever.eu/)

"GOAL-Robots"
(coordinator Gianluca Baldassarre, http://www.goal-robots.eu/)

"+me: motivating children with autism spectrum disorders to communicate and socially interact through interactive soft wearable devices"
(coordinator Gianluca Baldassarre, www.plusme.it)

Publications:

- Sperati, V. (2006),*"A collective robotic environment, for studying the evolution of spatial cognition"* (in Italian), graduation thesis, Facoltà di Psicologia, Università di Roma "Sapienza", tutor prof. Orazio Miglino, cotutor prof. Alessandro Londei.

- Sperati, V. & Baldassarre, G. (2006), "*Using entropy as index to evolve a couple of simulated robots capable of auto-organising behaviors*" (in Italian), in "Scienze Cognitive e Robotica", proceedings of "III° Convegno Nazionale dell'AISC", Erga Eds., pages 147-152.

- Sperati, V. , Trianni, V., Nolfi, S. (2008), "*Evolving coordinated group behaviours through maximisation of mean mutual information*", Swarm Intelligence, Volume 2, Number 2-4, pages 73-95, Springer New York.

- Gigliotta, O., Sperati, V., Nolfi, S. (2009). "*Robotics Attack!*" (in italian), in "Modelli, sistemi e applicazioni di Vita Artificiale e Computazione Evolutiva - WIVACE 2009", proceedings of VI italian workshop of Artificial Life and Evolutionary Computation, , pages 109-115, FEU, Napoli.

- Sperati, V., , Trianni, V., Nolfi, S. (2010). *"Evolution of self-organised path formation in a swarm of robots*", in proceedings of 7th International Conference

on Swarm Intelligence (ANTS 2010), volume 6234/2010 of Lecture Notes in Computer Science LNCS, pages 155-166, M. Dorigo et al. editors, Springer Verlag, Berlin, Germany.

- Sperati, V., Trianni, V., Nolfi, S. (2011). "*Self-Organised Path Formation in a Swarm of Robots*", Swarm Intelligence, Volume 5, Issue 2 (2011), pages 97-119, Springer New York.

- Dorigo, M. etal (2013), "Swarmanoid: a novel concept for the study of heterogeneous robotic swarms", in IEEE Robotics and Automation Magazine numero 4 pag 60—71 volume 20 .

- Tommasino, P. etal (2012), "McKibben Muscle Learning Equilibrium Postures", in 4th IEEE International Conference on Biomedical Robotics and Biomechatronics, BioRob 2012, pages 1229-1234.

- Marraffa, R. etal (2012), "*A Bio-Inspired Attention Model of Anticipation in Gaze Contingency Experiments with Infants*", IEEE International Conference on Development and Learning and Epigenetic Robotics, ICDL

- Sperati, V., Trianni, V., Nolfi, S. (2014). "*Mutual Information as a task-independent utility function for evolutionary robotics*", M. Prokopenko (ed.), Guided Self-Organization:Inception, Springer

- Sperati, V., Baldassarre, G. (2014). "*Learning where to look with movement-based intrinsic motivations: a bio-inspired model"*, IEEE International Conference on Development and Learning and Epigenetic Robotics, ICDL

- Ozcan, B., Sperati, V., Caligiore, D., Baldassarre, G. (2014) "*Motivating children with autism to communicate and interact socially through the +me wearable device"*, Nea-Science, year 1, vol. 5, pag. 59--65, XI° AISC Conference, Roma

- Ozcan, B. Sperati, V., Moretta, T., Scaffaro, S., Medda, A., Baldassarre, G. (2015) *"+me Project: final prototype for the experimentation with children with autism" (*Poster*)*, Nea-Science, year 2 vol. 9, pag. 213--215, XII° AISC Conference.

- Meola, V., Caligiore, D., Sperati, V., Zollo, L., Ciancio, A., Taffoni, F., Guglielmelli, E., Baldassarre, G. (2015) "*Interplay of rhythmic and discrete manipulation movements during development: a policy-search reinforcement-learning robot model*", in IEEE Transaction on Autonomous Mental Development, DOI 10.1109/TAMD.2015.2494460

- Sperati, V., Ozcan, B. *"Un dispositivo che aiuta a comunicare ed interagire"* in D.A. per la ricerca e l'innovazione, n. 44 (2016), www.daonline.info

- Ozcan, B., Caligiore, D., Sperati, V. Moretta, T. Baldassarre, G. "*Transitional Wearable Companions: A Novel Concept of Soft Interactive Social Robots to Improve Social Skills in Children with Autism Spectrum Disorder*", vol 8, issue 4, pp 471--481 (2016) International Journal of Social Robotics. DOI 10.1007/s12369-016-0373-8.

- Sperati, V., Ozcan, B. "*The experimental device +me (version 1.0)*", Technical report (2016), DOI:10.13140/RG.2.1.3201.8166

- Sperati, V., Baldassarre, G. "*A bio-inspired model learning visual goals and attention skills through contingencies and intrinsic motivations*", (2017) IEEE Transactions on Cognitive and Developmental Systems, vol 10, issue 2, pp 326-344, DOI 10.1109/TCDS.2017.2772908

Exhibitions:

- MakerFaire 2014, European Edition, Roma (Italy): presented first prototype of “+me” device
- MakerFaire 2015, European Edition, Roma (Italy): presented third prototype of “+me” device
- Supernova 2015, Brescia (Italy): presented third prototype of “+me” device
- MakerFaire 2016, European Edition, Roma (Italy): presented fourth prototype of "+me" device.

Awards:

- Start Cup Lazio 2015: menzione speciale “Social Innovation”;
  premio speciale “StartUp Initiative” (conferito da Banca Intesa San Paolo) al progetto “+me”
- Global Elevate Awards 2016: "Runner-Up" award in category "Healthcare" for project "+me".

Visiting Experiences:

- From 26/11/2007 to 30/11/2007: Viktoria Institute (Gothebourg, SWEDEN)
- From 08/02/2008 to 02/06/2008: CSIRO, ICT Centre (Sydney, AUSTRALIA), with supervision of Dr. Mikhail Prokopenko

Teaching Experiences:

- From 18/01/2012 to 21/04/2012: course “Physical Computing Elements” (28 hours), at Istituto Quasar (Rome, ITALY).

Computer skills:

- operating system: Linux, Windows, Android
- programming language: C++, PureData, Processing
- applications: Matlab, LaTeX, R, Inkscape, Fritzing
- hardware: good experience with Arduino boards
- electronics: good expertise, good skills in prototyping (developer of "+me" control board)