Assoz.Prof. Antonio Rodríguez-Sánchez, PhD.

Associate Professor

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Assoz.Prof. Antonio Rodríguez-Sánchez, PhD. is currently an Associate Professor in the Intelligent and Interactive Systems group of the department of Computer Science at the Universität Innsbruck (Austria).

He was born in Santiago de Compostela (A Coruña), a beautiful city in the north-west of Spain. He completed his Ph.D. at the Center for Vision Research (York University, Toronto, Canada) on modeling attention and intermediate areas of the visual cortex under the supervision of Prof. John K. Tsotsos (Canada Research Chair) in 2010. He obtained the degree of M.Sc. in Computer Science at the Universidade da Coruña (Spain) in 1998. He received his B.Sc. in Computer Science at Universidad de Córdoba (Spain) with Honors and did his Bachelor Thesis at the Université de La Rochelle (France). He is an ELLIS member and has published more than 70 publications (~1400 citations, h-index 18) in international journals and conferences in Machine/Deep Learning, Computer Vision, Computational neuroscience and Robotics.

His current research interests include different areas of artificial intelligence: Explainable AI, computational neuroscience, (deep) neural networks, computer vision, machine learning and robotics.

He is also interested from an “amateur” point of view in other non computer related scientific fields such as physiscs, mathematics, biology, history, sports (skiing, swimming, hiking, fencing) and photography.

Areas of Interest

- Medical imaging and Explainable AI
- Machine and Deep Learning
- Computer Vision
- Biological plausibility and inspiration

Positions

- Assistant Professor at the Department of Computer Science, Intelligent and Interactive Systems, University of Innsbruck (since 2015).
- Senior Researcher at the Department of Computer Science, Intelligent and Interactive Systems, University of Innsbruck (2011-2015).
- Junior Researcher and Teaching Assistant at the Department of Computer Science and Engineering, Attention Lab, York University, Toronto, Canada (2002-2010).
- Instructor at University of Ontario Institute of Technology, Oshawa, Canada (2006-2009).
- Junior Researcher at Biotechnology Center, Centro de Investigaciones Científicas (CSIC), Madrid, Spain (2000-2002).
- Computer Engineer at Lucent Technologies, Tres Cantos (Madrid), Spain (1998-2000)

Education

- 10/2010: PhD in Computer Science, York University (Canada).
- 06/1998: Engineering Degree in Computer Science, University of A Coruña (Spain).
- 06/1996: Bachelor Degree in Computer Science, University of Córdoba (Spain).
- 3 years Bachelor in Biology (1998-2001), Autonomous University of Madrid (Spain).

Talks and Workshops

- A current list of talks and workshops can be found here.

Publications

A list of publications can be found here or in Google Scholar

Supervised Theses

- Safoura Rezapour-Lakani. PhD.
- Sebastian Stabinger. PhD, In progress.
- David Peer. PhD, In progress.
- Suzana Ilic. PhD, In progress.

- Jakob Mittelberger and Chris Engelhardt. MSc. In progress.
- Rick Spiegel. MSc. In progress.
- Josef Gugglberger. MSc. In progress.
- Christoph Klosch. MSc. In progress.
- Maicol Polvere. MSc (University of Genoa). In progress.
- Salvatore Giancani. MSc (University of Genoa). 24/07/2020.
- Sabine Oberleiter. MSc. An architecture to learn curvature-tuned neural populations. 25/04/2018.
- Daly Chea. MSc. Finding Reflections using Convolutional Neural Networks. 14/06/2017.
- Check other Bachelor and Master thesis finished or in progress.

Present and coming Teaching

- Winter term 2020/21. Visual Computing.
- Winter term 2020/21. Deep Learning.
- Winter term 2020/21. Vertiefungsseminar.
- Summer term 2021. Computer Vision.
- Summer term 2021. Advanced Computer Vision.
- Summer term 2021. Algorithms and Data Structures.
- Summer term 2021. Masterseminar.

Past Teaching

- Introduction to Computer Vision (2011/12-2019/20). University of Innsbruck.
- Advanced Computer Vision (2011/12-2019/20). University of Innsbruck.
- Deep Learning (2017/18-2019/20). University of Innsbruck.
- Probabilistic models and methods (2015/16-2019/20).
- Machine Learning (2010/11 and 2019/20). University of Innsbruck.
- PS Data Structures and Algorithms (2017/18 and 2019/20). University of Innsbruck.
- PS Computer Graphics (2016/17). University of Innsbruck.
- Masterseminar on Machine learning and Computer Vision (2011/12, 2012/13, 2013/14, 2014/15). University of Innsbruck.
- PS Introduction to Intelligent Systems (2011/12). University of Innsbruck.
- Applied Internet and Multimedia (2006/07. 2007/28, 2008/09). University of Ontario Institute of Technology (Canada).
- Computer Architecture (2008/09). University of Ontario Institute of Technology (Canada).
- Computer Use in Science (2002/03, 2003/04, 2004/05, 2007/08). York University (Canada).
- Fortran and Scientific Computing (2003/04). York University (Canada).
- Introduction to Computer Use (2002/03, 2007/08). York University (Canada).
- Introduction to Computer Science II (2004/05). York University (Canada).
- Programming I (2000/01, 2001/02). University Carlos III de Madrid (Spain).
- Computer Science basics (2000/01, 2001/02). University Carlos III de Madrid (Spain).

Projects

- 3rd Hand (2014-2017)
- PaCMan (EU FP7-ICT-STREP, 2014-2016)
- IntellAct (EU FP7-ICT-STREP, 2011–2014)

Code

- Paper: Antonio Rodríguez-Sánchez, Daly Chea, George Azzopardi, Sebastian Stabinger, A deep learning approach for detecting and correcting highlights in endoscopic images. Code. License.
- Paper: Thomas Hoyoux, Antonio Rodríguez-Sánchez, Justus Piater, Can Computer Vision Problems Benefit from Structured Hierarchical Classification?. Machine Vision and Applications 27, pp. 1299–1312, 2016. Code. License.
- Paper: Hanchen Xiong, Antonio Rodríguez-Sánchez, Sandor Szedmak, Justus Piater, Diversity priors for learning early visual features. Frontiers in Computational Neuroscience 9 (104), 2015. Code. License.
- Paper: Antonio J. Rodríguez-Sánchez, John K. Tsotsos, The roles of endstopped and curvature tuned computations in a hierarchical representation of 2D shape. PLoS ONE 7 (8), pp. 1–13, 2012. Code. License