

Matteo Ruggero Ronchi

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Current Position

Mar '20 – Present **California Institute of Technology**, Pasadena, CA, USA
Postdoctoral Fellow, Computational Vision Lab

Education

Sep '13 – Dec '19 **California Institute of Technology**, Pasadena, CA, USA
Ph.D. in Computer Science, Computational Vision Lab

- Thesis: “*Vision for Social Robots: Human Perception and Pose Estimation*”
- Advisor: Pietro Perona

Oct '10 – Dec '12 **University of Siena**, Siena, Tuscany, ITALY
Master of Science in Computer Science Engineering *cum laude*

- Thesis: “*An Information Theoretic Feature Learning Approach to Visual Recognition*”
- Advisor: Marco Gori

Sep '07 – Oct '10 **University of Siena**, Siena, Tuscany, ITALY
Bachelor of Science in Computer Science Engineering *cum laude*

- Thesis: “*Image Steganalysis based on Machine Learning Techniques*”
- Advisor: Michelangelo Diligenti

Teaching Experience

Jul '19 – Sep '19 Summer Undergraduate Research Fellowship (SURF) Tutor

- Project Title: “*Unsupervised Stereo Pre-training for Human Pose Estimation*”

Jul '18 – Sep '18 Summer Undergraduate Research Fellowship (SURF) Tutor

- Project Title: “*Monocular 3D Human Pose Estimation from Weakly Supervised Data*”

Jul '15 – Sep '15 Summer Undergraduate Research Fellowship (SURF) Tutor

- Project Title: “*Learning a Rotation Invariant Low Rank Basis for Human Pose Estimation*”

Sep '14 – Dec '14 Teaching Assistant - CNS 187: Neural Computation

- Description: “Models of neural computation (deep neural networks, population coding, spike-based computing, etc.) and their biological inspiration.”
- Instructor: Pietro Perona

Industry Experience

- Sep '17 – Sep '19 **Disney Research R&D Associate**, Los Angeles, CA, USA
- Project Title: “*Vision Systems for Social Robots in Crowds*”
 - Description: “Design, prototype, and implement vision algorithms that will allow robots to interact socially with people and move safely through dense crowds.”
 - Mentor: Jeremie Papon

Publications

- Mar '20 “*How Much does Multi-View Self-Supervision Help 3D Human Pose Estimation?*” **Ronchi**, Mac Aodha, Perona. DOI: N/A
- Sep '18 “*It’s all Relative: Monocular 3D Human Pose Estimation from Weakly Supervised Data.*” **Ronchi**, Mac Aodha, Eng, Perona. Proceedings of the British Machine Vision Conference (BMVC 2018). DOI: N/A
- Oct '17 “*Benchmarking and Error Diagnosis in Multi-Instance Pose Estimation.*” **Ronchi**, Perona. Proceedings of the International Conference on Computer Vision (ICCV 2017). DOI: [10.1109/ICCV.2017.48](https://doi.org/10.1109/ICCV.2017.48)
- Dec '16 “*A Rotation Invariant Latent Factor Model for Movement Discovery from Static Poses.*” **Ronchi**, Kim, Yue. Proceedings of the IEEE International Conference on Data Mining (ICDM 2016). DOI: [10.1109/ICDM.2016.0156](https://doi.org/10.1109/ICDM.2016.0156)
- Sep '15 “*Describing Common Human Visual Actions in Images.*” **Ronchi**, Perona. Proceedings of the British Machine Vision Conference (BMVC 2015). DOI: [10.5244/C.29.52](https://doi.org/10.5244/C.29.52)
- Sep '14 “*Distance Estimation of an Unknown Person from a Portrait.*” Burgos-Artizzu, **Ronchi**, Perona. Proceedings of the European Conference on Computer Vision (ECCV 2014). DOI: [10.1007/978-3-319-10590-1_21](https://doi.org/10.1007/978-3-319-10590-1_21)
- Dec '12 “*An Information Theoretic Feature Learning Approach to Visual Recognition.*” **Ronchi**, Melacci, Lippi, Maggini, Gori. Master Thesis Dissertation, Siena, 2012. DOI: N/A
- Oct '10 “*Image Steganalysis based on Machine Learning Techniques.*” **Ronchi**, Diligenti. Bachelor Thesis Dissertation, Siena, 2010. DOI: N/A

Academic Service

Workshop Organizer: MS COCO Keypoint Estimation Challenge

- ECCV 2016, ICCV 2017, ECCV 2018, ICCV 2019

Workshop Organizer: MS COCO Object Detection and Segmentation Challenge

- ICCV 2015

Workshop Organizer: MS COCO Captioning Challenge

- CVPR 2015

Reviewer: CVPR, ICCV, ECCV, ACCV

Honors & Awards

- Mar '15* Qualcomm Innovation Fellowship Finalist
- Project Title: “Efficient Inference of Agent-Object Interactions from Images”
- Dec '12* Best Computer Science Student of the Year
- University of Siena, Siena, Tuscany, ITALY

Programming Skills

Research & Development:

- Python (main), MATLAB, C, C++

Deep Learning:

- Pytorch (main), Tensorflow

Databases:

- MongoDB

Web:

- Flask, HTML, Javascript

Mobile:

- Android

Other:

- Amazon Mechanical Turk GUI Development, ROS

Languages

English and Italian – Mother Tongue Proficiency

On the Side

- Sep '18* California Institute of Technology Convocation, Invited Speaker
(<https://www.youtube.com/watch?v=3Bsp7d3nt5Y>)
- Fall '18, '19* Improv instructor (California Institute of Technology):
- Improvisation for Scientists (PA040 class)
- Fall '17* Founder of the Theater group: “IMprovisation PLayerS at the California Institute of Technology” (IMPLiCIT)
- Summer '10, '11* Math and Physics Volunteer Teacher for underprivileged children (Amici della Costa D’Avorio NPO)

References

References available upon request.