

# Pedro Morgado

## Curriculum Vitae

✉ [pmorgado@wisc.edu](mailto:pmorgado@wisc.edu)  
📄 <https://pedro-morgado.github.io>  
Last Updated: July 14, 2022

### Education

- 2015–2021 PhD, Electrical and Computer Eng., University of California San Diego.  
Advisor: Prof. Nuno Vasconcelos.  
Thesis: *"Learning to see and hear without human supervision."* ([link](#))
- 2011–2012 MSc, Electrical and Computer Eng., Instituto Superior Técnico, Lisbon, Portugal.  
Advisors: Prof. Margarida Silveira & Prof. Jorge S. Marques  
Thesis: *"Automated Diagnosis of Alzheimer's Disease using PET Images."* ([link](#))
- 2008–2011 BSc, Electrical and Computer Eng., Instituto Superior Técnico, Lisbon, Portugal

### Appointments

- Starting Assistant Professor @ University of Wisconsin-Madison  
Fall 2022 Dept. of Electrical and Computer Engineering
- 2021–2022 Postdoctoral Fellow @ Carnegie Mellon University, Robotics Institute  
Mentor: Abhinav Gupta.
- 2015–2021 Research Assistant @ University of California San Diego (UCSD)  
Mentor: Nuno Vasconcelos
- Summer 2019 Research Intern @ Facebook AI Research, New York  
Mentor: Ishan Misra
- Summer 2017 Research Intern @ Adobe Research, Seattle  
Mentor: Oliver Wang
- 2012–2014 Research Assistant @ Institute for Systems and Robotics, Lisbon  
Mentors: Margarida Silveira & Jorge S Marques

### Research Interests

- Computer vision & machine learning
- Self-supervised learning & data efficient learning
- Multi-modal understanding (vision, audio, text, tactile)
- Multi-task learning (generalist models, life-long learning, multi-task network design)

## Publications

\* Denotes equal contribution

- 2022 [18] The Challenges of Continuous Self-Supervised Learning. S Purush-walkam\*, **P Morgado**\*, A Gupta. European Conference on Computer Vision (ECCV), 2022. [paper](#)
- [17] Localizing Visual Sounds the Easy Way. S Mo, **P Morgado**. European Conference on Computer Vision (ECCV), 2022. [paper](#)
- 2022 [16] Benchmarking and Automating the Image Recognition Capability of an In situ Plankton Imaging System. J Jaffe, K Le, Z Yuan, A Syed, D Ratelle, E Orenstein, M Carter, S Strang, K Kenitz, **P Morgado**, P Franks, N Vasconcelos. Frontiers in Marine Science, 2022. [paper](#)
- 2021 [15] Robust Audio-Visual Instance Discrimination. **P Morgado**, I Misra, N Vasconcelos. Conference on Computer Vision and Pattern Recognition (CVPR), 2021. **(Oral presentation)**. [paper](#)
- [14] Audio-Visual Instance Discrimination with Cross-Modal Agreement. **P Morgado**, N Vasconcelos, I Misra. Conference on Computer Vision and Pattern Recognition (CVPR), 2021. **Best paper award candidate**. [paper](#)
- 2020 [13] Learning Representations from Audio-Visual Spatial Alignment. NeurIPS **P Morgado**\*, Y Li\*, N Vasconcelos. Neural Information Processing Systems (NeurIPS), 2020. [paper](#)
- 2020 [12] Deep Hashing with Hash-Consistent Large Margin Proxy Embeddings. IJCV **P Morgado**, Y Li, JC Pereira, M Saberian, N Vasconcelos. International Journal on Computer Vision (IJCV), 2020. [paper](#)
- 2020 [11] Solving Long-tailed Recognition with Deep Realistic Taxonomic Classifier. TY Wu, **P Morgado**, P Wang, CH Ho, N Vasconcelos. ECCV European Conference on Computer Vision (ECCV), 2020. [paper](#)
- 2019 [10] NetTailor: Tuning the architecture, not just the weights. CVPR **P Morgado** and N Vasconcelos. Conference on Computer Vision and Pattern Recognition (CVPR), Long Beach, 2019. [paper](#)
- [9] PIEs: Pose Invariant Embeddings. Chih-Hui Ho, **P Morgado** and N Vasconcelos. Conference on Computer Vision and Pattern Recognition (CVPR), Long Beach, 2019. [paper](#)

- 2018 [8] Self-Supervised Generation of Spatial Audio for 360 Video. **P Morgado**, N Vasconcelos, T Langlois, O Wang. Neural Information Processing Systems (NeurIPS), Montreal, 2018. [paper](#)
- 2017 [7] Semantically Consistent Regularization for Zero-Shot Recognition. **P Morgado**, and N Vasconcelos. Conference on Computer Vision and Pattern Recognition (CVPR), 2017. [paper](#)
- 2015 [6] Minimal neighborhood redundancy maximal relevance: Application to the diagnosis of Alzheimer's disease. **P Morgado**, and M Silveira. Neurocomputing, 2015. [paper](#)
- 2015 [5] Predicting conversion from MCI to AD with FDG-PET brain images at different prodromal stages. C Cabral, **P Morgado**, DC Costa, and M Silveira. Computers in Biology and Medicine, 2015. [paper](#)
- 2013 [4] Efficient selection of non-redundant features for the diagnosis of Alzheimer's disease. **P Morgado**, M Silveira, and JS Marques. International Symposium on Biomedical Imaging (ISBI) 2013. **(Oral presentation)** [paper](#)
- [3] Extending Local Binary Patterns to 3D for the diagnosis of Alzheimer's disease. **P Morgado**, M Silveira, and JS Marques. International Symposium on Biomedical Imaging (ISBI) 2013. [paper](#)
- 2013 [2] Texton-based diagnosis of Alzheimer's disease. **P Morgado**, M Silveira, and DC Costa. International Workshop on Machine Learning for Signal Processing (MLSP) 2013. [paper](#)
- 2013 [1] Diagnosis of Alzheimer's disease using 3D Local Binary Patterns. **P Morgado**, M Silveira, and JS Marques. Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization, 2013. [paper](#)

## Invited talks

- Jun 2022 Learning to see what and where it sounds.  
@CVPR'22 Sight and Sound Workshop.
- Feb-Mar 2020 Learning to see and hear without human supervision.  
@TTI-Chicago @Virginia Tech @University of Pittsburgh @University of California, Merced  
@University of Wisconsin, Madison @University of Utah @University of Illinois, Chicago.
- Jan 2020 Learning to see and hear from audio-visual co-occurrences.  
@Pixel Cafe Seminar, UCSD.
- Jun 2018 Self-supervised spatial audio generation  
@Center for Visual Computing Retreat, UCSD

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## Teaching

- Fall 2022 UWisc-Madison ECE 532 - Matrix Methods in Machine Learning. Instructor.  
Spring 2019 UCSD ECE 271C - Statistical Learning III. Teaching Assistant.  
Winter 2019 UCSD ECE 271B - Statistical Learning II. Teaching Assistant.  
Spring 2016 UCSD ECE 161C - Digital Signal Processing II. Teaching Assistant.

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## Awards and recognition

- 2021 **Best paper award candidate**, IEEE Conf. on Computer Vision and Pattern Recognition (CVPR'21). Awarded to 32 out of 5900 submissions (top 0.5%).
- 2017-Now **Reviewer recognition**. Outstanding reviewer at NeurIPS'21, CVPR'21, ICCV'17. Top 10% reviewer at NeurIPS'20. Top reviewer at NeurIPS'19.
- 2015 **FCT Graduate Fellowship (SFRH/BD/109135/2015)**. Four year fellowship for full-time doctoral studies awarded by the Portuguese Ministry of Sciences, Technology and Education.
- 2014 **UCSD Graduate Fellowship**, Electrical and Computer Eng. departmental fellowship for the academic year of 2014-2015.
- 2013 **Research Grant**, Portuguese Ministry of Sciences, Technology and Education.
- 2012 **Scientific Initiation Grant**, Portuguese Ministry of Sciences, Technology and Education.

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## Service and leadership

- Reviewing IEEE / CVF Computer Vision and Pattern Recognition (CVPR)  
International Conference on Computer Vision (ICCV)  
Neural Information Processing Systems (NeurIPS)  
International Conference on Learning Representations (ICLR)  
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)  
Transactions on Pattern Analysis and Machine Intelligence (TPAMI)  
Journal of Machine Learning Research (JMLR)  
Transactions on Machine Learning Research (TMLR)  
Transactions on Big Data
- Mentoring **Summer Research Internship Program**. 2018 & 2019. Mentoring UCSD undergraduate and graduate students in computer vision research.
- ENLACE bi-national summer research program**. 2018. Mentoring students in a high-school outreach program promoting diversity in research, especially in Hispanic communities.

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## Languages

English, Portuguese