

Pedro Morgado, Ph.D.

✉ pmorgado@wisc.edu

🌐 <https://pedro-morgado.github.io/>

📅 December 17, 2024

Employment History

- Fall'22 – Now **Assistant Professor** @ University of Wisconsin-Madison, Dept. of Electrical and Computer Engineering
Affiliate in Dept. of Computer Sciences.
- 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

Education

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




Honors and Awards

- 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 Portuguese Ministry of Sciences, Technology and Education.
- 2014 **UCSD Graduate Fellowship**, Electrical and Computer Eng. departmental fellowship for the academic year of 2014–2015.




Teaching

- Spring 2025 **Introduction of Artificial Neural Networks** (CS/ECE 539)
- Fall 2024 **Data Science & Engineering** (ECE 204)
- Spring 2024 **Computer Vision** (CS/ECE 766)
- Fall 2023 **Introduction of Artificial Neural Networks** (CS/ECE 539)
- Spring 2023 **Matrix Methods in Machine Learning** (CS/ECE/ME 532)
- Fall 2022 **Matrix Methods in Machine Learning** (CS/ECE/ME 532)


Service and Leadership

- Area Chair  Neural Information Processing Systems (NeurIPS), 2023, 2024.
Computer Vision and Pattern Recognition (CVPR), 2022, 2023, 2024, 2025.
- Reviewing  Computer Vision and Pattern Recognition (CVPR)
International Conference on Computer Vision (ICCV)
Neural Information Processing Systems (NeurIPS)
International Conference on Learning Representations (ICLR)
International Conference on Machine Learning (ICML)
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 that promotes diversity in research, especially in Hispanic communities.

Invited Talks

- Sep 2024  **Towards Audio-Guided Visual Animation**
@2024 Midwest Computer Vision Workshop.
- Oct 2023  **Audio-Visual Machine Perception**
@UW Madison - Leonard Urh Memorial Symposium.
- July 2023  **Unifying Audio-Visual Machine Perception - Tasks & Architectures**
@UW Madison - ML4MI Seminar.
- Feb 2023  **Challenges of Self-Supervised Learning beyond ImageNet**
@University of Bristol - MaVi Seminar @UC San Diego - Scripps Institute of Oceanography Machine Learners Group.
- Oct 2022  **Multi-modal representation learning from and for realistic audio-visual data**
@AV4D Workshop, ECCV'22, Tel Aviv, Israel.
- Sept 2022  **Learning to see in the wild. Should SSL be truly unsupervised?**
@SILO Seminar, UW Madison. @Computer Vision Round Table, UW Madison.
- Jun 2022  **Learning to see what and where it sounds**
@Sight and Sound Workshop, CVPR'22, New Orleans, LO.
- 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

Peer Reviewed Publications

- 1 C. E. Wu, J. Lin, Y.-H. Yu, and P. Morgado, "Patch ranking: Token pruning as ranking prediction for efficient clip inference," in *IEEE/CVF Winter Applications in Computer Vision (WACV)*, 2025.  URL: <https://arxiv.org/abs/2312.01017>.

- 2 J. Lin, C. E. Wu, Y. Wei, and **P. Morgado**, “Accelerating augmentation invariance pretraining,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2024. [URL: https://arxiv.org/abs/2410.22364](https://arxiv.org/abs/2410.22364).
- 3 S. Mo and **P. Morgado**, “Audio-visual generalized zero-shot learning the easy way,” in *European Conference on Computer Vision (ECCV)*, 2024. [URL: https://arxiv.org/abs/2407.13095](https://arxiv.org/abs/2407.13095).
- 4 S. Mo and **P. Morgado**, “Unveiling the power of audio-visual early fusion transformers with dense interactions through masked modeling,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024. [URL: https://arxiv.org/abs/2312.01017](https://arxiv.org/abs/2312.01017).
- 5 Y. Wei, A. Gupta, and **P. Morgado**, “Towards latent masked image modeling for self-supervised visual representation learning,” in *European Conference on Computer Vision (ECCV)*, 2024. [URL: https://arxiv.org/abs/2407.15837](https://arxiv.org/abs/2407.15837).
- 6 L. Zhang, S. Mo, Y. Zhang, and **P. Morgado**, “Audio-synchronized visual animation,” in *European Conference on Computer Vision (ECCV)*, 2024. [URL: https://arxiv.org/abs/2403.05659](https://arxiv.org/abs/2403.05659).
- 7 S. Mo and **P. Morgado**, “A unified audio-visual learning framework for localization, separation, and recognition,” in *International Conference on Machine Learning (ICML)*, 2023. [URL: https://arxiv.org/abs/2305.19458](https://arxiv.org/abs/2305.19458).
- 8 C. E. Wu, Y. Tian, H. Yu, H. Wang, **P. Morgado**, Y. H. Hu, and L. Yang, “Why is prompt tuning for vision-language models robust to noisy labels?” In *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2023. [URL: https://arxiv.org/abs/2307.11978](https://arxiv.org/abs/2307.11978).
- 9 K. T. Le, Z. Yuan, A. Syed, D. Ratelle, E. C. Orenstein, M. L. Carter, S. Strang, K. M. Kenitz, **P. Morgado**, P. J. S. Franks, N. Vasconcelos, and J. S. Jaffe, “Benchmarking and automating the image recognition capability of an in situ plankton imaging system,” in *Frontiers in Marine Science*, 2022. [URL: https://www.frontiersin.org/articles/10.3389/fmars.2022.869088/full](https://www.frontiersin.org/articles/10.3389/fmars.2022.869088/full).
- 10 H. Mittal, **P. Morgado**, U. Jain, and A. Gupta, “Learning visual representation from audible interactions,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022. [URL: https://arxiv.org/abs/2209.13583](https://arxiv.org/abs/2209.13583).
- 11 S. Mo and **P. Morgado**, “A closer look at weakly-supervised audio-visual source localization,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022. [URL: https://arxiv.org/abs/2209.09634](https://arxiv.org/abs/2209.09634).
- 12 S. Mo and **P. Morgado**, “Localizing visual sounds the easy way,” in *European Conference on Computer Vision (ECCV)*, 2022. [URL: https://arxiv.org/abs/2203.09324](https://arxiv.org/abs/2203.09324).
- 13 S. Purushwalkam, **P. Morgado**, and A. Gupta, “The challenges of continuous self-supervised learning,” in *European Conference on Computer Vision (ECCV)*, 2022. [URL: https://arxiv.org/abs/2203.12710](https://arxiv.org/abs/2203.12710).
- 14 **P. Morgado**, I. Misra, and N. Vasconcelos, “Robust audio-visual instance discrimination,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021. [URL: https://arxiv.org/abs/2103.15916](https://arxiv.org/abs/2103.15916).
- 15 **P. Morgado**, N. Vasconcelos, and I. Misra, “Audio-visual instance discrimination with cross-modal agreement,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021. [URL: https://arxiv.org/abs/2004.12943](https://arxiv.org/abs/2004.12943).
- 16 **Morgado Pedro**, Y. Li, J. Costa Pereira, M. Saberian, and N. Vasconcelos, “Deep hashing with hash-consistent large margin proxy embeddings,” *International Journal of Computer Vision*, 2020. [URL: https://arxiv.org/abs/2007.13912](https://arxiv.org/abs/2007.13912).
- 17 **Pedro Morgado***, Y. Li*, and N. Vasconcelos, “Learning representations from audio-visual spatial alignment,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2020. [URL: https://arxiv.org/abs/2011.01819](https://arxiv.org/abs/2011.01819).

- 18 T.-Y. Wu, **P. Morgado**, P. Wang, C.-H. Ho, and N. Vasconcelos, "Solving long-tailed recognition with deep realistic taxonomic classifier," in *European Conference on Computer Vision (ECCV)*, 2020. [URL: https://arxiv.org/abs/2007.09898](https://arxiv.org/abs/2007.09898).
- 19 C.-H. Ho, **P. Morgado**, A. Persekian, and N. Vasconcelos, "Pies: Pose invariant embeddings," in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.
- 20 **P. Morgado** and N. Vasconcelos, "Nettailor: Tuning the architecture, not just the weights," in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019. [URL: https://arxiv.org/abs/1907.00274](https://arxiv.org/abs/1907.00274).
- 21 **P. Morgado**, N. Vasconcelos, T. Langlois, and O. Wang, "Self-supervised generation of spatial audio for 360° video," in *Advances in Neural Information Processing Systems (NeurIPS)*, 2018. [URL: https://arxiv.org/abs/1809.02587](https://arxiv.org/abs/1809.02587).
- 22 **P. Morgado** and N. Vasconcelos, "Semantically consistent regularization for zero-shot recognition," in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017. [URL: https://arxiv.org/abs/1704.03039](https://arxiv.org/abs/1704.03039).
- 23 C. Cabral, **P. Morgado**, D. C. Costa, M. Silveira, A. D. N. Initiative, *et al.*, "Predicting conversion from mci to ad with fdg-pet brain images at different prodromal stages," in *Computers in biology and medicine*, vol. 58, Elsevier, 2015, pp. 101–109.
- 24 **P. Morgado**, M. Silveira, A. D. N. Initiative, *et al.*, "Minimal neighborhood redundancy maximal relevance: Application to the diagnosis of alzheimer's disease," *Neurocomputing*, vol. 155, pp. 295–308, 2015.
- 25 **P. Morgado**, M. Silveira, and D. C. Costa, "Texton-based diagnosis of alzheimer's disease," in *Machine Learning for Signal Processing (MLSP), 2013 IEEE International Workshop on*, IEEE, 2013.
- 26 **P. Morgado**, M. Silveira, and J. S. Marques, "Diagnosis of alzheimer's disease using 3d local binary patterns," *Computer Methods in Biomechanics and Biomedical Engineering: Imaging Visualization*, vol. 1, no. 1, pp. 2–12, 2013.
- 27 **P. Morgado**, M. Silveira, and J. S. Marques, "Efficient selection of non-redundant features for the diagnosis of alzheimer's disease," in *IEEE International Symposium on Biomedical Imaging*, 2013.
- 28 **P. Morgado**, M. Silveira, and J. S. Marques, "Extending local binary patterns to 3d for the diagnosis of alzheimer's disease," in *IEEE 10th International Symposium on Biomedical Imaging*, 2013.