

# Publications of Kim Steenstrup Pedersen

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## Ph.D. thesis:

- **Kim S. Pedersen.** Statistics of Natural Image Geometry. Ph.D. Thesis, Department of Computer Science, University of Copenhagen, Denmark, January 2003. Published as DIKU tech. report no. 2003/04.

## Peer reviewed scientific journal papers: (20)

- Ole-Christian Galbo Engstrøm, Michela Albano-Gaglio, Erik Schou Dreier, Yamine Bouzembrak, Maria Font-i-Furnols, Puneet Mishra, **Kim Steenstrup Pedersen.** Transforming Hyperspectral Images Into Chemical Maps: A Novel End-to-End Deep Learning Approach. *Journal of Chemometrics*, 2025. Accepted. DOI: 10.1002/cem.70041
- Ashkan Tashk, Klavs Martin Sørensen, Søren Balling Engelsen, **Kim Steenstrup Pedersen**, Carl Emil Eskildsen. MIPLS2: Exploiting PLS2 to impute missing values in a two-block system with multiple response variables. *Analytica Chimica Acta*, Volume 1364: 344134, 22 August 2025. DOI: 10.1016/j.aca.2025.344134
- Roberta Hunt, José L Reyes-Hernández, Josh Jenkins Shaw, Alexey Solodovnikov, **Kim Steenstrup Pedersen.** Integrating Deep Learning Derived Morphological Traits and Molecular Data for Total-Evidence Phylogenetics: Lessons from Digitized Collections. *Systematic Biology*, 2025; syae072, DOI: 10.1093/sysbio/syae072
- Ole-Christian Galbo Engstrøm, Erik Schou Dreier, Birthe Møller Jespersen, and **Kim Steenstrup Pedersen.** IKPLS: Improved Kernel Partial Least Squares and Fast Cross-Validation Algorithms for Python with CPU and GPU Implementations Using NumPy and JAX. *Journal of Open Source Software* 9 (99), 6533, 2024. DOI: 10.21105/joss.06533
- Xiao Hu, F. Lauze, **K. Steenstrup Pedersen.** Refractive Pose Refinement: Generalising the Geometric Relation between Camera and Refractive Interface. *International Journal of Computer Vision*, 131: 1448–1476, 2023. JIF: 11,478. DataDOI: 10.17894/ucph.5d1b9bea-b105-4d43-aefb-c53df7806c2a
- E. Schou Dreier, K. M. Sørensen, T. Lund-Hansen, B. Møller Jespersen, **K. Steenstrup Pedersen.** Hyperspectral imaging for classification of bulk grain samples with deep convolutional neural networks. *Journal of Near Infrared Spectroscopy*, 30(3): 107–121, April 2022. DOI: 10.1177/09670335221078356. DataDOI: 10.17894/ucph.f8c7feeb-3b27-4bd2-ba6d-6d44a4ab4330, JIF: 1,863.
- J. Rasmussen, J. Nielsen, J. C. Streibig, J. E. Jensen, **K. S. Pedersen**, S. I. Olsen. Pre-harvest weed mapping of *Cirsium arvense* in wheat and barley with off-the-shelf UAVs. *Precision Agriculture*, pp. 1 – 17, 2019. BFI: 1, JIF: 4,454.
- Jan Kremer, Kristoffer Stensbo-Smidt, Fabian Gieseke, **Kim Steenstrup Pedersen**, Christian Igel. Big universe, big data: Machine learning and image analysis for astronomy. *IEEE Intelligent Systems*, 32(2): 16–22, 2017. BFI: 2, JIF: 2,596.
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- J. Rasmussen, J. Nielsen, S. I. Olsen, **K. S. Pedersen**, J. E. Jensen, R. Horfarter. From image acquisition with unmanned aerial vehicles (UAV) to patch spraying in farmer's fields. European Weed Research Society Symposium, 2018.
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