

Thomas Besnier




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in Thomas Besnier

🌐 <https://tbesnier.github.io/>

Employment History



- Nov 2022 – Nov 2025  **Ph.D.** CRIStAL, University of Lille
- Apr 2022 – Sep 2022  **Research internship** DIKU, University of Copenhagen
- Feb 2020 – Jan 2021  **Data scientist intern** Electro-dépôt (retail company)

Education



- 2022 – 2025  **Ph.D., University of Lille**
Thesis title: *Geometric deep learning on manifold meshes*
- 2018 – 2022  **M.Sc. Computer Science Engineering** in Centrale Lille Institut.
Research internship title: *On stochastic shape analysis and applications to phylogenetics.*
-  **M.Sc. Mathematics** in University of Lille.
Thesis title: *On reparameterization invariance and applications to geometric neural networks.*

Research Publications


Preprint

- 1 T. Besnier, E. Pierson, S. Arguillere, M. Ovsjanikov, and M. Daoudi, *Pandas: Learnable deformation modeling with localized control*, 2025. arXiv: 2412.02306 [cs.CV].  URL: <https://arxiv.org/abs/2412.02306>.
- 2 F. Nocentini, T. Besnier, C. Ferrari, S. Arguillere, M. Daoudi, and S. Berretti, *Beyond fixed topologies: Unregistered training and comprehensive evaluation metrics for 3d talking heads*, 2025. arXiv: 2410.11041 [cs.CV].  URL: <https://arxiv.org/abs/2410.11041>.

Journal Articles

- 1 T. Besnier, S. Arguillère, and M. Daoudi, “Scanmove: Motion prediction and transfer for unregistered body meshes,” *Computers & Graphics*, vol. 132, p. 104 409, 2025, ISSN: 0097-8493.  DOI: <https://doi.org/10.1016/j.cag.2025.104409>.
- 2 T. Besnier, E. Pierson, S. Arguillère, and M. Daoudi, “Toward mesh-invariant 3d generative deep learning with geometric measures,” *Computers & Graphics*, 2023, ISSN: 0097-8493.  DOI: <https://doi.org/10.1016/j.cag.2023.06.027>.

Conference Proceedings

- 1 F. Nocentini, T. Besnier, C. Ferrari, S. Arguillere, S. Berretti, and M. Daoudi, “Scantalk: 3d talking heads from unregistered scans,” in *Proceedings of the European Conference on Computer Vision (ECCV)*, 2024.
- 2 E. Baker, T. Besnier, and S. Sommer, “A function space perspective on stochastic shape evolution,” in *Image Analysis*, R. Gade, M. Felsberg, and J.-K. Kämäräinen, Eds., Cham: Springer Nature Switzerland, 2023, pp. 278–292, ISBN: 978-3-031-31438-4.
- 3 E. Pierson, T. Besnier, M. Daoudi, and S. Arguillère, “Parameterization Robustness of 3D Auto-Encoders,” in *Eurographics Workshop on 3D Object Retrieval*, S. Berretti, T. Theoharis, M. Daoudi, C. Ferrari, and R. C. Veltkamp, Eds., The Eurographics Association, 2022, ISBN: 978-3-03868-174-8.  DOI: [10.2312/3dor.20221180](https://doi.org/10.2312/3dor.20221180).

Skills

Languages	Strong reading, writing and speaking competencies for English and French (mother tongue).
Coding	Python, C++, SQL, \LaTeX , ...
Databases	MySQL, PostgreSQL, SparkSQL
Web Dev	HTML, CSS, JavaScript
Misc.	Academic research, teaching, \LaTeX typesetting and publishing.

Teaching

Time series analysis	12h	Teaching assistant
Web development	32h	Teaching assistant
Machine learning	10h	Teaching assistant
Databases	12h	Teaching assistant
Introduction to deep learning	20h	Lead instructor

Miscellaneous Experience

Conference event organization

2023	3DOR2023 . Local organizer for the Symposium on 3D Object Retrieval 2023 (3DOR'23).
2024	Joint CAP/RFIAP 2024 , Local organizer for CAP (Conférence sur l'Apprentissage automatique) and RFIAP (Reconnaissance des Formes, Image, Apprentissage et Perception) conferences on July 1st-3rd 2024.
2025	The 19th IEEE International Conference on Automatic Face and Gesture Recognition (FG 2025) , Web Chair for FG2025.

Talks

- Geometry for statistics and AI (G-StAI) workshop**. On robust learning of surface deformations.

Reviewing experience

- Computers & Graphics**
- IEEE Transactions on Circuits and Systems for Video Technology**
- Computer Vision and Image Understanding (CVIU)**
- IEEE International Conference on Automatic Face and Gesture Recognition (FG)**