

# Thomas Besnier

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 @ThomasBesnier11

 Thomas Besnier

 <https://tbesnier.github.io/>

## Employment History

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

## Education

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

## 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. Kämäärinen, 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. Thehoaris, 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

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|-----------|---|
| Languages | Strong reading, writing and speaking competencies for English and French (mother tongue). |
| Coding    | Python, C++, SQL, L <sup>A</sup> T <sub>E</sub> X, ...                                    |
| Databases | MySQL, PostgreSQL, SparkSQL   |
| Web Dev   | HTML, CSS, JavaScript   |
| Misc.     | Academic research, teaching, L <sup>A</sup> T <sub>E</sub> X 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)