Baptiste Brument

3rd Year Ph.D. Student — Computer Vision
IRIT, University of Toulouse

31000, Toulouse
06 52 42 19 64
brument.bcb@gmail.com
bbrument.github.io

Education

2021 – Present **Ph.D. in Computer Vision: Enhancement of Photographic 3D Reconstruction Techniques**, IRIT, University of Toulouse
Thesis Supervisor: Jean-Denis DUROU / Advisor: Lilian CALVET

2020 – 2021 **Master PSMSC - Performance in Software, Multimedia and Scientific Computing**, INP-ENSEEIHT, Toulouse

2018 – 2021 **Engineering School**, INP-ENSEEIHT, Toulouse
Digital Sciences - Image & Multimedia
Competence Areas: Computer Vision — Artificial Intelligence — Geometric and Photometric Methods for 3D Reconstruction

2016 – 2018 **Preparatory Classes for Grandes Écoles (PCSI-PSI)**, Lycée Joffre, Montpellier

2016 **Scientific Baccalaureate**, Lycée Notre-Dame de la Merci, Montpellier

Professional Experience

2021 – Present **Teaching Assistant DCCE**, INP-ENSEEIHT, Toulouse
Courses taught: Computer Architecture (BSc), Data Analysis (BSc), Inverse Problems for 3D (MSc)

Mar – Sep 2021 **Research Internship**, REVA – IRIT, Toulouse
End of studies project – B. Brument, L. Calvet, J. Mélou, J-D. Durou. 3D Reconstruction of a Convex Polyhedron from its Silhouettes. ORASIS 2021

Jun – Jul 2020 **Research Internship**, Lab. of Biometry and Bioinformatics, Department of Agricultural and Environmental Biology, University of Tokyo, Japan
Deep-learning based imputation of missing data in historical rice breeding database

Jun – Jul 2019 **Research Internship**, INRA/CIRAD, Montpellier
Creation of the *openalea.rtfd.io* website containing documentation and interactive tutorials (ReadTheDocs & Jupyter) for the mathematical and computer modeling software OpenAlea

2018 **Private Tutor in Physics and Mathematics**, Montpellier

Publications

- Baptiste Brument, Robin Bruneau, Yvain Quéau, Jean Mélou, François Bernard Lauze, Jean-Denis Durou, Lilian Calvet, "RNb-NeuS: Reflectance and Normal-based Multi-View 3D Reconstruction," *arXiv:2312.01215 [cs.CV]*, 2023. `https://arxiv.org/abs/2312.01215`
- Baptiste Brument, Lilian Calvet, Robin Bruneau, Jean Mélou, Simone Gasparini, Yvain Quéau, François Lauze, Jean-Denis Durou, "A shape-from-silhouette method for 3D reconstruction of a convex polyhedron," *Proc. SPIE 12749, Sixteenth International Conference on Quality Control by Artificial Vision*, 1274918 (28 July 2023), `https://doi.org/10.1117/12.3000368`.

- Lilian Calvet, Nicolas Maignan, Baptiste Brument, Jean Mélou, Silvia Tozza, Jean-Denis Durou, Yvain Quéau, "Multi-view Normal Estimation – Application to Slanted Plane-Sweeping," in *Scale Space and Variational Methods in Computer Vision. SSVM 2023*, Lecture Notes in Computer Science, vol. 14009, eds. L. Calatroni, M. Donatelli, S. Morigi, M. Prato, M. Santacesaria, Springer, Cham, 2023, pp. 54. `https://doi.org/10.1007/978-3-031-31975-4_54`.
- Baptiste Brument, Lilian Calvet, Jean Mélou, Jean-Denis Durou, "Reconstruction 3D d'un polyèdre convexe à partir de ses silhouettes," *18èmes journées francophones des jeunes chercheurs en vision par ordinateur (ORASIS 2021)*, Saint Ferréol, France, Sep 2021.

Languages

French **Native**
English **Proficient (C1)**, Cambridge Linguaskill Business: 180+
Spanish **Basic**
German **Basic**

Computer Skills

OS **Unix, Windows**
Languages **Python, Matlab**
Tools **Latex, Git, Microsoft Office, ReadTheDocs, Jupyter**
Software **Meshroom, Inkscape, Gimp**

Hobbies

Sports **Tennis, Crossfit, Running**
Guitar **2 years of practice**
Others **Cinema, Music, Dance**