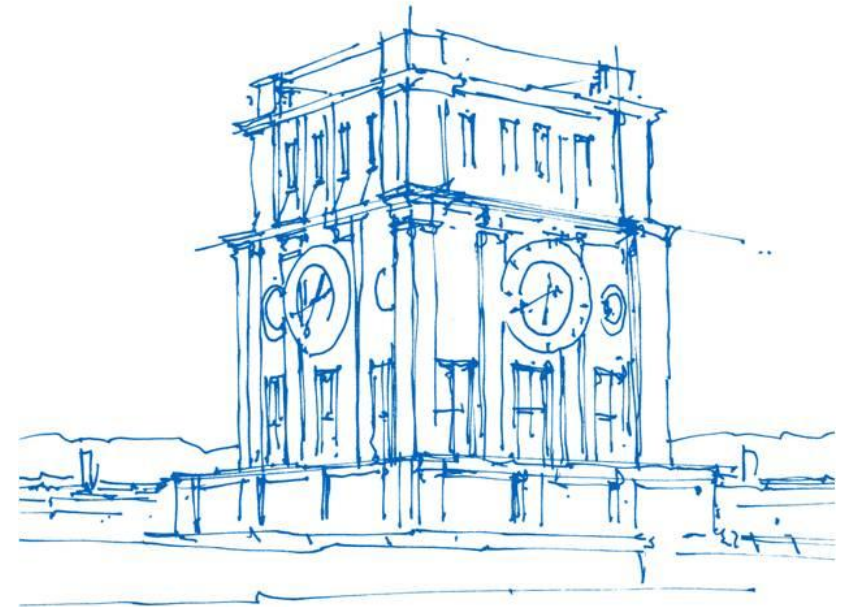


Masterseminar: Learning of and on Manifolds in medical imaging

Maxime di Folco & Anna Reithmeir

Chair for Computational Imaging and AI in Medicine

WS 23/24



Uhrenturm der TUM

Anna Reithmeir



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- PhD student
- B. Sc. & M. Sc. Informatics at TUM
- Research interests:
 - Medical image registration
 - Computer vision

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- B. Sc & M. Sc Informatics at Université de Lyon
- Research interests:
 - Cardiac imaging
 - Representation learning

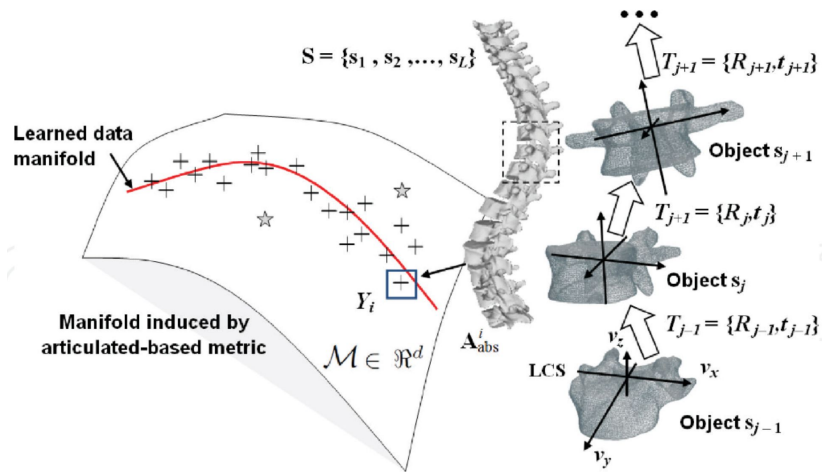


Chair for Computational Imaging and AI in Medicine



Prof. Dr. Julia Schnabel

Manifolds in medical imaging



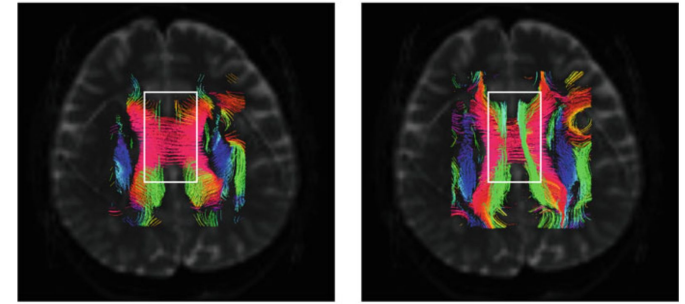
Kadoury 2018

RIEMANNIAN GEOMETRIC STATISTICS IN MEDICAL IMAGE ANALYSIS

Edited by
Xavier Pennec,
Stefan Sommer, Tom Fletcher

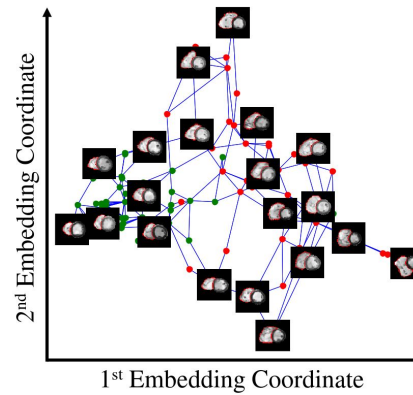
Applications

Baust, Weinmann 2020



Diffusion tensor imaging

Ye, Pohl 2014



Disease classification

<https://biag.cs.unc.edu/project/image-registration/>

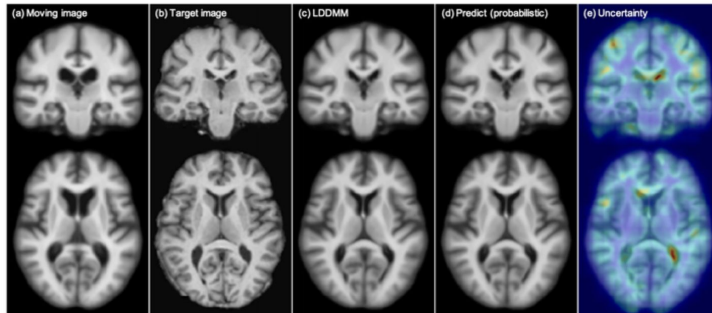


Image registration

... and more!

Course Objectives

- Understand
 - what manifolds are
 - why manifolds are important
 - recent research directions of working with manifolds in medical imaging
- Learn
 - how to read, analyze and discuss a research paper
 - how to present a complex research topic to a broad audience
 - how to design and present a research poster
- Participants need to
 - Present a paper (20 mins + 10 mins Q&A)
 - Present a poster in a poster session at the end of the semester
 - Actively participate in the discussions
- Evaluation
 - Attendance
 - Presentation and poster
 - Active participation in discussions

Last seminar



Register here:

<https://matching.in.tum.de/m/jz0zflh-seminars-ws2324>

or

mail to anna.reithmeir@tum.de / maxime.di-folco@tum.de