2019

専門科目

コンピュータビジョン
Computer Vision

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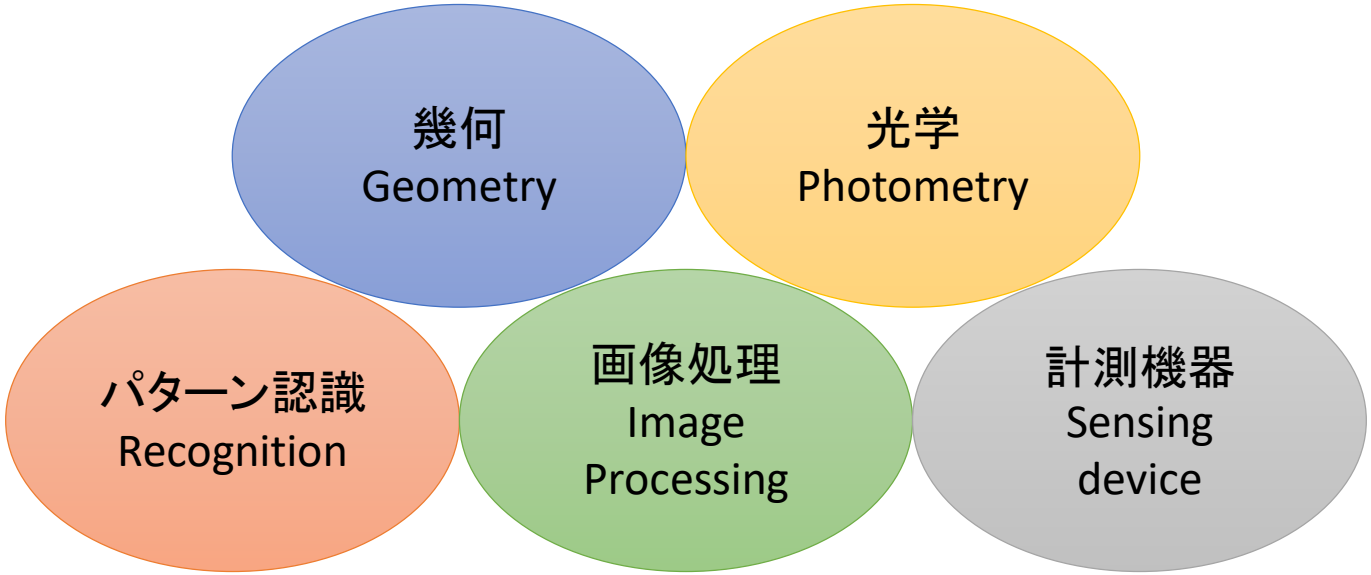
Learning objectives

- Computer vision is a scientific way that computer understands scene information using camera. This lecture aims to give a variety of method for modeling and analyzing images from both aspects of geometric and photometric approaches.



Basis technologies of computer vision

Lecture style and grading

- Lecture using PowerPoint slide
  - PDF will be uploaded before each lecture
- Mini report on each lecture: 50%
  - Hand in after each lecture
- Final examination: 50%
  - Lecture slides can be brought in.
  - PC can be used only for viewing PDFs.

Schedule

1. June 6 (Thu) Basis of Computer Vision
2. June 13 (Thu) Camera calibration
3. June 20 (Thu) Stereo and Epipolar Geometry
4. June 27 (Thu) Structure from motion and SLAM
5. July 4 (Thu) Reflection model
6. July 18 (Thu) Global illumination
7. July 25 (Thu) Shape from intensity
8. Aug. 1 (Thu) Conclusion and examination

Final examination

- Examination (60min) and explanation
- Lecture slides can be brought in.
  - printed PDFs or PC
- PC can be used
  - for viewing PDFs
  - for English/Japanese translation
  - NOT for chatting, searching, asking...

Reference

1. R. Szeliski :Computer Vision Algorithm and applications, Springer 2010.
2. 玉木 徹他: コンピュータビジョン アルゴリズムと応用, 共立出版, 2013.
3. Forsyth / Ponce, Computer Vision: A Modern Approach, Prentice Hall 2011.