

Computer Vision and Digital Image Processing

Dr. Mohamed Mostafa

College of Informatics
AI 612

Lecture 0

Course Introduction & Plan



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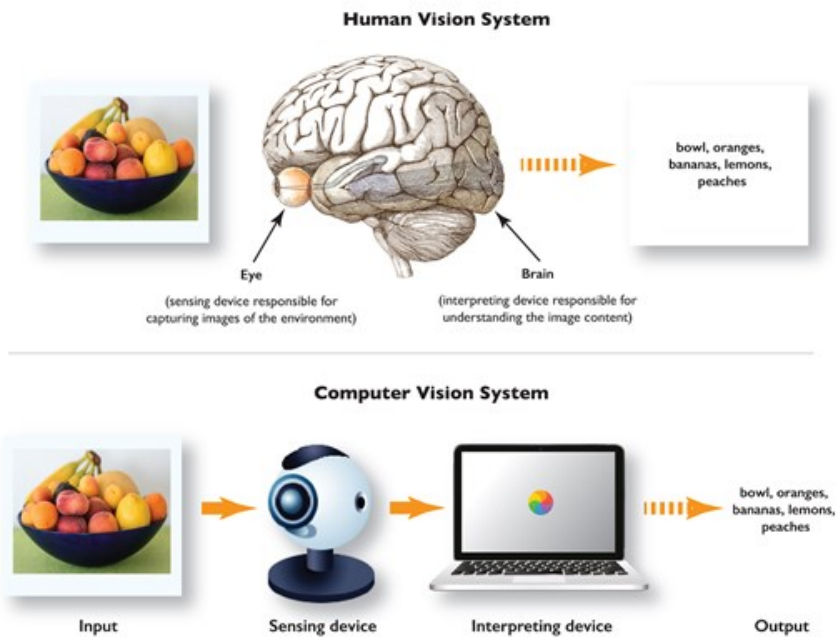
About the Instructor

Short Bio:

Dr. Mohamed Mostafa received his M.Sc. and PhD in Computer Science from Helwan University in the Arab Republic of Egypt's Faculty of Computers and Information. He also did a post-doctoral scientific mission in the Europe Union in an IT4Innovation Project. He is currently employed as an Associate Professor. Palo Alto International has qualified Dr. Mohamed as a Cyber Security Trainer. He is also a certified artificial intelligence trainer from the French College of Engineering and Applications, as part of the Egyptian Ministry of Communications' drive to localize artificial intelligence technology. His research interests include; AI algorithms optimization, AI applications in different domains, WBNs, and Wireless Sensor Networks security.

Definition of Computer Vision:

Computer vision is a field of **artificial intelligence (AI)** enabling computers to derive information from images, videos and other inputs. (IBM)



Source: [Manning](#)

Definition of Digital Image Processing:

The manipulation of digital images using algorithms to improve their quality or extract information.



(a)



Main Application Domains for Digital Image Processing:

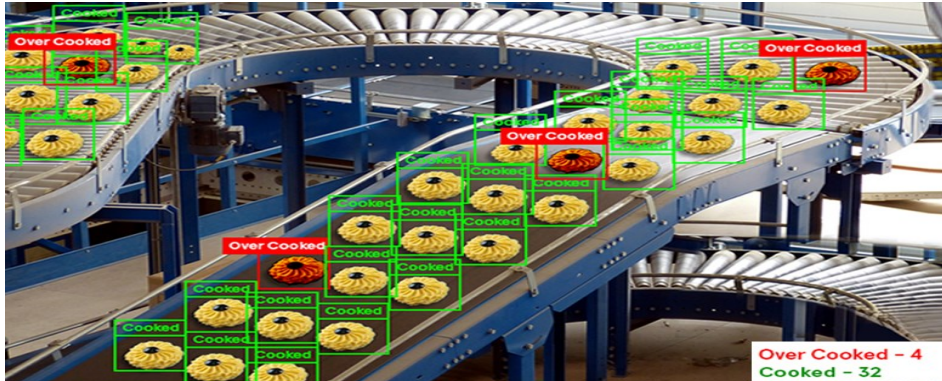


Medical Imaging

Computer Vision



Main Application Domains for Digital Image Processing:



Industrial Inspection

Biometrics

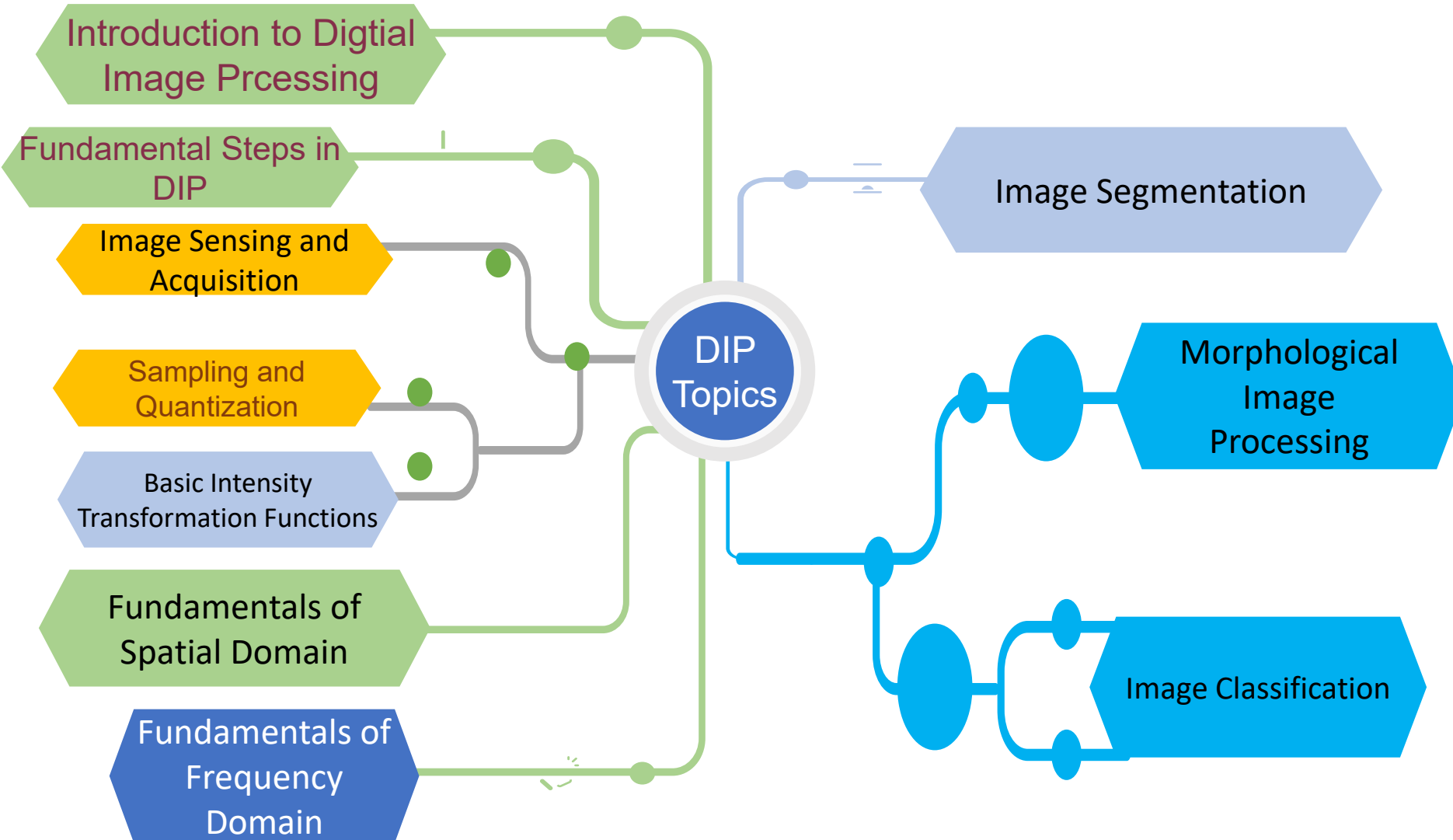


Main Application Domains for Digital Image Processing:



Augmented Reality

Source: [Basemark](#)



Some of the main techniques used in Digital Image Processing:





Reading List

- Gonzalez, Rafael C. Digital image processing. Pearson education India, 2009.

Academic Calendar

Week	Subject	Date
Week 1	Guidance lecture	27/1/2024
Week 2	Lecture - Discussion Panel - Assessment	3/2/2024
Week 3	Lecture - Discussion Panel - Assessment	10/2/2024
Week 4	Lecture - Discussion Panel - Assessment	17/2/2024
Week 5	Lecture - Discussion Panel - Assessment Deadline for withdrawal from a trimester or a course	24/2/2024
Week 6	Lecture - Discussion Panel - Assessment	2/3/2024
Week 7	Lecture - Discussion Panel - Assessment	9/3/2024
Week 8	Lecture - Discussion Panel - Assessment	16/3/2024
Week 9	Lecture - Discussion Panel - Assessment	23/3/2024
Week 10	Lecture - Discussion Panel - Assessment	30/3/2024
Vacation for Al-Fitr feast from 6/4/2024 to 13/4/2024		
Week 11	Lecture - Discussion Panel - Assessment	13/4/2024
Week 12	Discussion Panel	20/4/2024
Week 13	Beginning of Final Exams	27/4/2024
End of Trimester	End of Final Exams	4/5/2024

Grading

80% Short Exams

20% Final Exam





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Thank You

