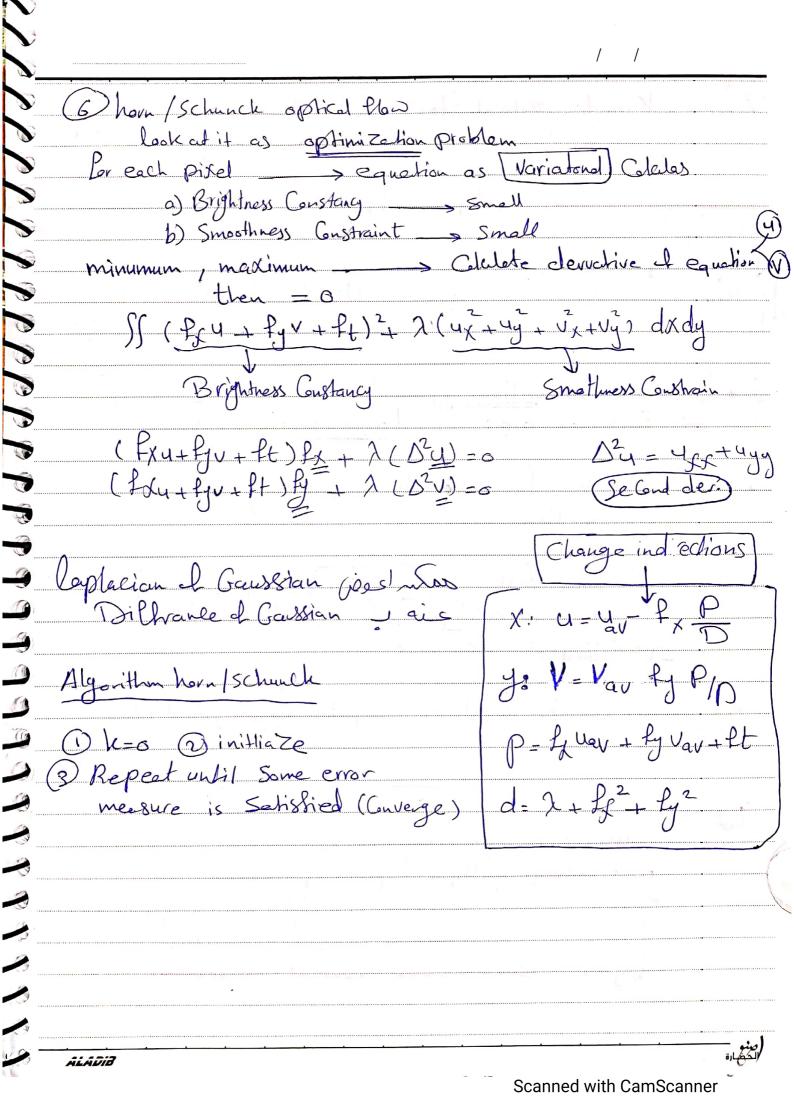
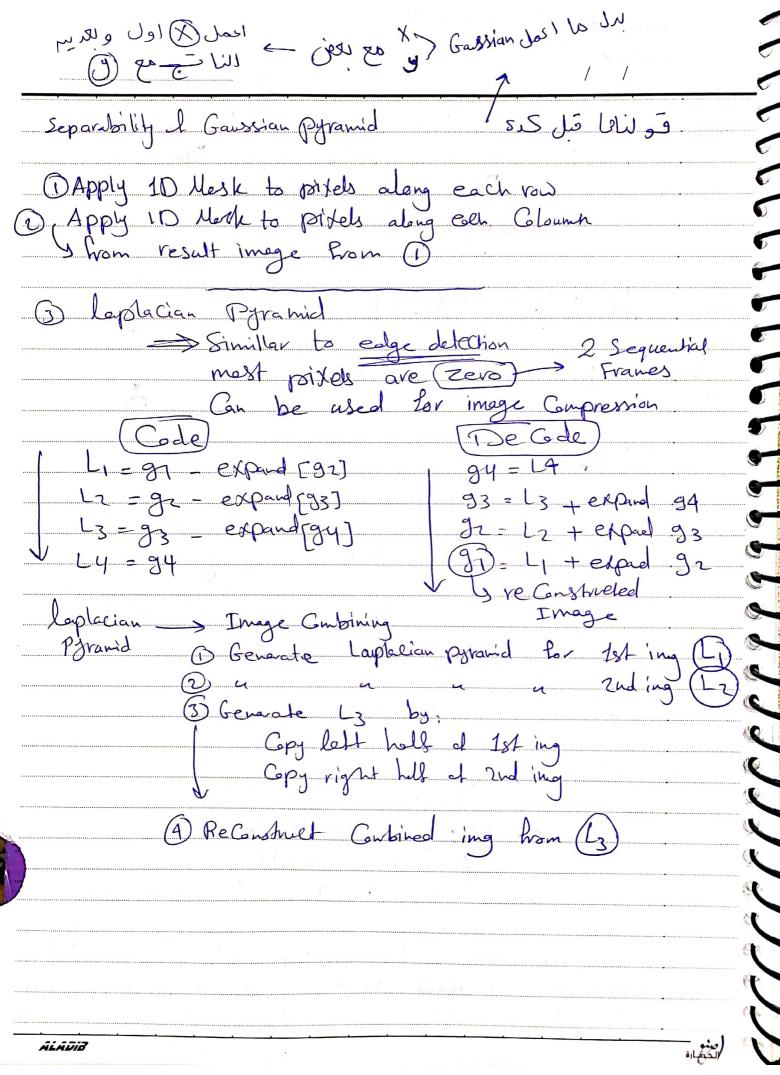
lec 8	copica Plas Video Analys		/ /
*	0.		
3 1 D/	1 1 1		
Dopphical flows	detect Mation	between Se	Equential.
Frame, mot Doptical Plow =	ion dobjects	, Surtale, E	edges
Dopphed How =	= disparity		•
30001'- N			* 1
3) Applications	1		4
	based Segmentalio		•
	re from motion	(3d)	
	s Compression		1
	next (Global m		
y Via	les Stabilization	, UAV Vide	Aholymi
F) Halmont of video	· Star a Madist	Forch in all	Stical Plans
f) Hament of video.	-> high -> dis	1- cabia da	Promobine
	- Myr - Gis	10 / DI 10 C GE	
5 horn/Schunk oph	cal Place (Brigh	then Constant	Assumetion)
£(x,4,t) =	f(x+dx, y+dy, ++(c	المار المار المار	0.0
tolor seies = 1	(x14,t) + 2 dx + d	Fdy + ds dt	
tylov Seies = f	Ydx Ludy	1) dt	(dr = ft)
<u> </u>	× + 9 - 3	- 1, ξα	∴dt .
P.	xy + fy y + P	t =0	<u>-</u>
V= - FX 4 - FT	<u> </u>		
* 7 1 24		P= Par	allel Plaw
eg, d	1	d= no	rnd Plaw
Stive		L> -	Pt

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	/ /
Fluces Kanade optical flow (least	Squares)
Exu, fyv = - lt -> Consider (3x3) window Fx, U + fyv = - ft	احار ال (علم) في طرف السام عالم
Ex. U + fu V = - PL.	- X 19 1 = ?
AU=FE	
$\frac{1}{2} \frac{1}{4} \frac{1}$	(PriunfyiV+Pt)2 Least square-lit
S * luces kanade without py ramids > fail in aros of large mot	ions J
* horn, schunck, lucas karade work o Smell metion	ny Par
1 il object move laster (Totightness) Ch 2X2, 3X3 makes [Pail] to estimal Socialistempral deverative	arges (vapidly) te
	<u> </u>
* (Pyramids) Can be used to Compute la vector	rge aptical Clow
Dyramids	•
useful in representing images	
built wring multiple Caprier of i	0 1
each pyramid level is (114) lowest level -> higherst	resolution resolution
highest lovel , lowest	resolution
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	Gawssian, lapolacian Poramids
	Reduce Javels
D	() Gaussian pyramid (reduce) out 31 < levels = 5,00
	$g(i,j) = \frac{2}{5} = \omega(m_1n)g(-1)(2c+m_1/2j+n)$
	5x5 quelity reduce x
D	-21-110112 G Valor 2 y
	H-REDUCe [91-1] total
.	Sepratoity of Gaussian (Redule 10)
	Gaussian on 2d XX
	Gaussian > Gaussian
8	Comment of the state of the sta
1	(2) Gaussian Pyramids (Expand)
3	$9lin(1j) = 2 2 w(p,q)glin-1(\frac{1-p}{n},\frac{j-g}{n})$
	P=-2q=-2
19	Glin = Expand [glin-1]
9	Convolution Mash
3	$[\omega(-2),\omega(-1),\omega(0),\omega(1),\omega(2)]$
J.	separable: w(m,n) = w(m) w(n)
3	Symphic: $\hat{\omega}(i) = \hat{\omega}(-i)$ [C,b,a,b,c] = [-2,-1,0,1,2]
3	Sum of mask = 1 a+2b+2C=1
	All nodes at given level must Cortilate the Same total weight to nodes at next higher level
	ALADIB $a+2C=2b \rightarrow Scanned$ with CamScanner



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