CS 6475: COMPUTATIONAL PHOTOGRAPHY
GEORGIA INSTITUTE OF TECHNOLOGY

I. General Information (See Tabs for additional information)

Course Number:	CS 6475-001		
Course Name:	Computational Photography		
Course Description:	This class explores how computation impacts the entire workflow of photography, which is traditionally aimed at capturing light from a (3D) scene to form an (2D) image. A detailed study of the perceptual, technical and computational aspects of forming pictures, and more precisely the capture and depiction of reality on a (mostly 2D) medium of images is undertaken over the entire term. The scientific, perceptual, and artistic principles behind image-making will be emphasized, especially as impacted and changed by computation. Topics include the relationship between pictorial techniques and the human visual system; intrinsic limitations of 2D representations and their possible compensations; and technical issues involving capturing light to form images. Technical aspects of image capture and rendering, and exploration of how such a medium can be used to its maximum potential, will be examined. New forms of cameras and imaging paradigms will be introduced. Students will undertake a hand-on approach over the entire term using computation techniques, merged with digital imaging processes to produce photographic artifacts.		
Program:	Georgia Tech's Online MS in Computer Science		Link to GT OMS-CS Website

II. Team/People

Instructor	Irfan Essa		
	Contact via Piazza. Email for Private and Urgent Issues ONLY		
Head TA Emeritus	Daniel Castro	*(Not actively participating)*	
TAs	Kim Sirichoke	*Overall Course Management*	Contact via Piazza. Email for Private and Urgent Issues ONLY. Please contact all Instructors for general questions, as that ensures better coverage
	Chris Gearhart	*Autograder & VM*	
	Varun Agrawal	*Piazza/Discussions*	
	Francis Ho	*Piazza/Discussions*	
	Niranjan Kumar	*Piazza/Discussions*	
	Phuc-Hai Huynh	*Piazza/Discussions*	
	Jitae Kim	*Piazza/Discussions*	
	Patrick Ward	*Piazza/Discussions*	
	Jeffrey Lin	*Piazza/Discussions*	
	Trenton Faris	*Piazza/Discussions*	
	Diego Vacanti	*Piazza/Discussions*	
	Rebecca Stewart	*Piazza/Discussions*	
	Shrija Mishra	*Piazza/Discussions*	
Instructional Designers	Arpan Chakraborty & David Joyner		

Video Production	Aaron Gross		

III. Important Websites

CANVAS	https://gatech.instructure.com/courses/64992	For Grades and Final Exam	
Google Doc	http://bit.ly/CPatGT-Fall19	Syllabus, Schedule, Materials (This document, published!)	
Piazza	https://piazza.com/gatech/fall2019/omscs6475/	For Official Announcements, Forums for discussion	
Udacity	https://www.udacity.com/	For videos of lectures	
Peer Feedback	http://peerfeedback.gatech.edu/	Peer Feedback Site	
Note	All students are required to participate, attend to above websites. No EXCEPTIONS		

IV. Assignments/Projects & Grading

A.	Assignments (6 assignments)	42%	7% Each
B.	Notebook Quizzes (3 quizzes)	6%	2% Each
C.	Midterm Project - Research Replication	15%	Report = 10% Presentation Video = 5%
D.	Final Project - Student Choice	15%	Proposal = 2% Report / Presentation = 13%
E.	Final Exam: [Scheduled two weeks before end of term, cumulative, and online]	15%	
F.	Peer Feedback & Plagiarism Quiz	5%	
G.	Participation on Piazza	0%	No Grade, but required!
H.	Final Portfolio	2%	
	Total	100.0%	

V. Policies

A. Communications			
	1	*WITH the Professor and TA should be exclusively through Piazza. No emails! Professor and TAs will do their best to respond to questions within 2 days of posted question.*	
	2	*Piazza will serve as the PRIMARY and ONLY source of communications and sharing announcements with the students. See below (Section V.C for specific guidelines)*	
	3	*Be professional and courteous. TAs and Students are all required to maintain high standards of interaction on Piazza. TAs will be monitoring Piazza and will make a post private and/or remove comments that are not seen as appropriate for the public forum. See below (Section V.C for specific guidelines)*	

	4	*The online forum (Plazza) is for course related discussion. Not a forum to publically raise issues about the class. If you have some issues, please raise them PRIVATELY via PIAZZA just with the INSTRUCTORS! See below (Section V.C for specific guidelines)*	
B. Assignments			
	1	GitHub will be used as the source of all assignments and projects.	[GitHub](#)
	2	CANVAS will be used for report submissions, grades, and the Final Exam. Exact dates in Canvas are the final authority. Any important announcements on date changes for assignments and/or projects will be announced on Piazza. It is very important that you regularly monitor Piazza. Canvas will NOT be the source of assignments, only their due dates! See GitHub above.	
	3	Homework Assignments will be graded on a list of criteria such as quality of work, completeness, insight into technical issues, insight into other relevant issues, etc. Detailed grading rubrics for the assignments will NOT be shared with students in advance.	
	4	Each assignment will be graded and returned USUALLY within two weeks or so of submission. If there is delay in grading for some reason, it will be announced. This course does have a rigorous grading process, so please be patient.	
	5	Late Assignments: Everything is DUE when specified. NO extensions. You may submit assignments up to 48 hours late, but each day (or fraction thereof) of LATE submission for any part of an assignment will result in 1 letter grade (full 10%) drop of the overall assignment grade. Only the LAST submission before the late deadline will be graded.	
	6	See collaboration policy below for more details on how to collaborate	
	7	Instructions provided with the assignments and projects MUST be explicitly followed, especially any and all directions like how to submit and the file naming conventions specified.	
	8	Regrade requests can be made using the Google Form. Please provide clear details as to why you are requesting a regrade. All regrade requests must be made within ONE (1) week of the grade release (specific due date will be announced when grades are released). Above and Beyond will NOT be regraded unless that section was completely missed by the grader.	
	9	In addition to assignments and two projects, there are ungraded exercises, readings, and lectures. We expect students to manage their schedule to meet the deadlines for each of the assignments and projects.	
	10	Students are welcome to work and submit assignments before their due date. TAs will try to answer questions related to the assignments as much as they can, but most conversations may be most active as per the Schedule planned for the class.	
	11	All submissions will be checked for plaigarism. Students should do their OWN work and submit their OWN work. Remember to CITE your sources!	
	12	Late Assignments: Everything is DUE when specified. NO extensions. If there are circumstances such as a medical or family emergency that prevent you from submitting after the two-day deadline, you MUST contact the INSTRUCTORS in a private post via Piazza, and as needed, the Dean of Students.	
C. Discussions (via Piazza)		All class discussions will be on the Piazza site listed above. Here are some very specific guidelines for these discussions, which MUST be adhered to.	
	1	All posts must be professional and cordial and about/related to the course material at hand.	
	2	Students WILL not post specific answers to any of the assignments to Piazza before the due date of said assignments. In some instances TAs will start a special discussion for students to share and discuss their assignments after the DUE date.	
	3	Before asking a question on the Forum, students should search for an answer to their question. It most probably has been discussed already	
	4	Instructor team will start weekly discussion threads about relevant topics. Before posting a new thread, please see these threads and these official threads will be actively monitored by the Instructor team	
	5	Instructor team will attempt to answer all questions, as possible. But, please do NOT expect answers within hours. TAs are instructed to let students answer each others questions too, as that supports more interactive learning.	

	6	Students can post anonymously to the class, but their IDENTITIES will be known by the instructor team
	7	Instructor team is required to maintain privacy of all students, so please ensure that you communicate with them privately (using the private chanels via Piazza) to communicate with them.
	8	If there is a complaint about the class, please DO NOT post a public note to PIAZZA. Please communicate directly with the instructor team. We will do our best to address it. If it is NOT addressed, please use OMS Assistance (Point H. below).
D. Websites		The above listed websites will be OFFICIALLY used for this class. All students are required to check these sites on a regular basis.
	1	No information will be shared via any other site (G+, FB, Slack, etc.). Students are welcome to create their own social media sites, but none of the instructors are required to be on those sites and will not participate there regularly.
E. Grading		*Grading Scale (for each assignment/unit and for the entire class).*
	1	Above 90%
	2	80%-89.99%
	3	70%-79.99%
	4	60%-69.99%
	5	Below 60%
	6	*Note: Any work that meets all the basic requirements will be given a 90%. For scores above 90%, work has to go above and beyond meeting the basic requirements of the assigned work. A Piazza post will explain this.*
F. Honor Code		All assigned work is expected to be individual, except where explicitly written otherwise. You are encouraged to discuss the assignments with your classmates; however, what you hand in must be your own work. If any work product was produced based on discussions with someone else (in the class OR outside), please specify clearly in the final turn-in.	GT Honor Code
G. Collaboration Policy		As stated above with the Honor Code, but worth making explicit here. Collaboration between students on work assigned in class is fine. You are encouraged to discuss your work with each other, but each individual student MUST submit their own work, done solely by themselves. Sharing code solutions to assignments while the assignment is open is NOT allowed. Wait for a Piazza announcement from the instructors before sharing any of your work in the public forum. In some cases, you may have had a fellow student or a non-student friend, help you with an assignment or work (say to take a picture!). You are REQUIRED to acknowledge any help you may have received in completing the work assigned, even as small as holding the light, or suggesting a possible path to a solution. Please be explicit and provide details in your report.
H. OMS Assistance		If after contacting your TA and the instructor you do not feel your issue has been resolved, you may escalate the issue by emailing oms-advising@cc.gatech.edu and asking that your ticket to be assigned to Jay Summet.