# Academic Integrity Scenarios Typical in Computer Science

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All of the following scenarios are true, more or less; names and various details have been changed. In each case, analyze the scenario. Figure out if anything inappropriate seems to be going on and, if so, who should be doing what.

Note that inclusion in this list does not in every case indicate that the editor himself finds the participants' behavior terribly problematic. Perhaps, some day, I will separately provide my own analysis of each scenario.

# 1 Graduate-student life

A1. *Project double-use.* Cellia is taking two graduate classes that have a final project. She finds a topic that is a close-enough fit to use for both classes, and she turns in the same project for both classes. The instructors never explicitly said that the project for this course should not be used for any other course and Cellia never mentions to them that she is doing this. (Variant: the project Cellia uses for the class is something that she completed the prior semester, for another class. She makes minor modifications but basically reuses her old work.)

A2. *Copying homework solutions.* Ngale, a $2^{nd}$ year graduate student, asks for an extension on homework 5 because he'll be at a conference at the time that it's due. Prof. Atsuko Nashimura provides an extension for Ngale until Feb 23. But, for the benefit of the other students, who turn in their homework on Feb 18, Prof. Nashimura posts the solutions for homework 5 on Feb 19. When Ngale turns in his homework on Feb 23, Prof. Nashimura sees that two of the problems are copied from the posted solutions. She confronts Ngale and he admits to having looked at the solutions, but he counters that Prof. Nashimura never told him not to consult the solutions. "This is a graduate class," he says. "If I want to copy solutions that you posted, what do *you* care?"

A3. *Signing an attendance sheet.* First year students are required to attend a weekly seminar which counts as a course. The only requirement for this 2-credit course is to attend at least 8 out of 10 of the lectures. A sign-up sheet is circulated every lecture and, at the end of the quarter, those students who have signed in 8 or more times get credit. Anne and her boyfriend come to the class just as the lecture ends, sign the sheet, and leave.

A4. *Failing to attend the weekly seminar.* The department is running a weekly seminar at 3:10–4:00 pm on Tuesdays. Mark almost never goes to the seminar. When Mark's advisor asks him why he hasn't been going, Mark answers, "Well, I attended a couple of times and didn't understand anything. I'm very busy and it's really quite a waste of time."

A5. *Showing up for the food.* The department is running a weekly seminar at 3:10–4:00 pm on Tuesdays. Food is often served at 2:45 pm, or at 4:00 pm. Gabriel is exceptionally busy and

runs down just to grab the refreshments. He doesn't attend the talk, but is hard at work on an ECS 222A problem set—it's not like he's slacking off.

## 2    Authoring papers

B1. *Double submission, #1.* Lester has submitted a paper to conference $A$. Notifications will go out Feb 20 and Lester is not hopeful of the paper getting in. Another conference for which the paper is appropriate, conference $B$, has a deadline of Feb 1. Lester sends in the updated version of the paper to conference $B$. "I understand that the paper can't appear in both places," Lester explains to his officemate, "but it almost certainly is going to get rejected from conference $A$. In the unlikely event that it is accepted to conference $A$, I'll immediately withdraw the paper as a submission to conference $B$, where the review process will hardly have begun."

B2. *Double submission, #2.* Wittgenstein and his coauthors have written a paper that spans theory and practice. They worry that the theory people will say their paper is too practical, and the practical people will say their paper is too theoretical. They worry too that, whatever venue their paper appears in, half of their target audience won't find it. So they split the paper into two versions, one with a more theoretical slant and one with a more practical slant. The two papers have different titles, different sequences of authors (A, B, W vs. W, A), and very different introductions, but the key ideas and technical content are pretty much identical. They simultaneously submit the two papers to the two conferences. Neither submission mentions the other, as neither paper has appeared. A month later, Wittgenstein is shocked to get a jointly-signed email from the two Program Chairs saying that the paper was found to be a double submission and was therefore disqualified, with further punitive actions still under consideration. "The two papers were written for two different communities," Wittgenstein writes back in protest.

B3. *Complaining about dumb reviews.* A paper Till is very proud of was just rejected from POPL. But most of the reviewer comments are quite positive, and the two negative comment in the reviews are technically wrong: the reviewer simply didn't understand the paper. Till is very upset. He writes a note to the Program Chair to complain that the PC members who wrote these comments either didn't read the paper in full, or read it without any understanding.

B4. *Copying the definitions from prior work.* Xin and her coauthors are writing a paper in cryptography. For the definitions section of their paper they copy three paragraphs (13 sentences in all) from the definitions section of a well-known paper $P$, making minimal modifications. Paper $P$ is listed in Xin's references and is mentioned in Xin's introduction. The main contribution of Xin's paper is not definitional; Xin simply needs definitions and has picked up the clearest ones he can find in the literature. The particular paragraphs that were taken from paper $P$ took the original author many hours of writing and have evolved over a series of papers.

B5. *Unacknowledged relationship and contributor.* Prof. Matín, a big-school mega-brain, has been having an affair with graduate student Jill. Many grad students in the Department have figured this out, but pretty much none of the faculty have. Matín is not Jill's official advisor—he has asked a fellow faculty member to serve in that role. Prof. Matín has, however, been Jill's "unofficial" advisor and frequent collaborator, helping her out on several papers, working out core parts of the analyses. By mutual consent, Matín is not named as a co-author

on these papers, but he is mentioned in the acknowledgments of some. Jill's gets a better academic position than any of her peers. Several of Jill's fellow students think little of her technical abilities (she can't even explain what's in her papers) and become very cynical over her methods and her success.

B6. *Non-standard author ordering.* Prof. Alok, an exceptionally nice guy, works in an area of computer science where the usual convention is to list author names in alphabetical order unless there is an extreme difference in contribution. He has written a paper with his graduate student, Mr. Lee, in which he assesses that each author has contributed approximately equally. In order to help Mr. Lee's chances of getting a good job, Prof. Alok says to order the names on the paper as "H. Lee and A. Alok" instead of the more conventional "A. Alok and H. Lee," explaining to the student that the author order is irrelevant to his own career, relevant to Lee's, and that, in some adjoining areas of computer science, it's common to list graduate-student-names first. The student defers to his advisor's sensibilities.

B7. *Authorship for minimally-contributing party, #1.* Bob (a 4th year student) has an interesting problem he wants solved. He has been separately talking about the problem to Andy (a 3rd year student) and to Chris (several years out and at an industrial research lab). Finally, Bob and Chris nail it. Bob tells Chris that Andy needs to be a coauthor on the resulting paper because Andy has been working on the problem with him. However, Bob says that it's random and unpredictable that things finally worked out from his discussions with Chris and not Andy. Chris reluctantly agrees to have Andy join on as a coauthor. Andy helps out a bit in the writeup, but the final paper reflects no significant ideas from him, and only a small amount of writing and editing from him.

B8. *Authorship for minimally-contributing party, #2* Graduate student Frank is working on a rather large systems project with his advisor and several other students. A paper coming out of this project is about to be submitted, listing six authors, including Frank. Frank isn't sure how these six became the authors, but he tells his advisor (who is among them) that he had little to do with this paper: he says that he contributed no real ideas, spent about two days helping out with one experiment, and only made a quick proofreading pass over the final paper. Frank's advisor says that this degree of contribution is adequate to justify coauthorship, and he says that it's important for Frank to have his name on as many papers as possible. "Regardless," he continues, "your letter writers will explain your contribution more fully than an author list ever can." He adds in, in passing, that one or two of the other coauthors on this paper had still less contribution than Frank, and that it wouldn't be appropriate to remove Frank's name without removing their's. Frank defers to his advisor's sensibilities and publishes the paper with his name listed as a coauthor.

B9. *Withdrawing a buggy submission.* Dr. Opt and Dr. Pes submit a paper to the top venue in their field. Three weeks after submission, Dr. Pes discovers that there's a problem in the proof of one of the theorems. The theorem is one of several in the paper, but it's one of the key ones. Neither Opt nor Pes know how to fix the problem right now. Dr. Pes thinks that the problem will be very difficult to fix, if it can be fixed at all. Dr. Opt believes that he can fix the problem with a couple weeks of work, and he sets out to do so. Dr. Pes says that the paper should be withdrawn immediately, arguing that it's inappropriate to leave under review a paper that has a significant known bug. He says that they've now spent something like 48 hours thinking about the problem without resolving it, withdrawing the paper, or informing the Program Chair of the issue—already too long. Dr. Opt says to lighten up, keep working,

and try to fix the problem before the PC decision in 1.5 months. "If the paper gets in and we still haven't figured out how to fix the problem by then, *then* we will withdraw the paper and say sorry. No harm done. But probably we will have fixed the problem, the PC won't have noticed it, and we can just quietly fix the proof for the final version."

B10. *Missing full version, #1.* Omar and his colleagues write a conference paper, $P$, that opens up a new line of work. The paper is quite informal, and the level of informality "catches on." Omar and his colleagues knew very well that there are foundational issues in what they are doing, but they don't think it necessary to resolve them now, in the first paper on this topic. Soon there are dozens of follow-on papers that not only build on $P$, but copy its essential informality. Omar knows that he and his coauthors *should* to a full version of paper $P$, but writing a full version of this paper is an extremely difficult task. For a decade, the full version does not get written.

B11. *Missing full version, #2.* Matt writes a 12-page conference paper $p$ in which he refers to an on-line full-version $P$ that he intends to finish up before the conference version $p$ appears. Unfortunately, he finds that there are technical difficulties for creating the full version $P$. So the conference version appears but the full version to which it refers still does not exist. More than a year later, it still does not exist.

B12. *Missing software, #1.* Your work realizes a novel and useful software tool, FireDog, which you list among the contributions of a corresponding academic paper. In both the paper and your conference talk, you promise to release the source for this tool. Under the rush to publish, the source, although functional, is badly written and somewhat embarrassing to actually release. A year after the conference, being busy with other things, you have yet to clean up the code and put it to the web.

B13. *Missing software, #2.* Your work realizes a novel and useful software tool, WaterCat, which you list among the contributions of a corresponding academic paper. In both the paper and your conference talk, you promise to release the source for this tool. Soon after the conference you begin doing some followup work that depends on the tool. You know that other groups, who have requested it, may become competitors in a race to do similar followup work. So you decide to postpone release of the tool, at least for the next few months.

B14. *Unchecked reference.* Sam includes a reference to a paper $P$ that he sees in the bibliography of several papers he's read and that he's using. Sam knows that $P$ is regarded as an important paper, but it's hard to get (it's not on-line) and he's never actually seen it. He adds the reference to $P$ simply because it appears to be "traditional" to reference this work in this domain, not because he himself has directly used anything from it.

B15. *Paper with content an author has not verified.* Filmore and and Stevenson author a paper together. Each author is responsible for certain sections. Filmore doesn't understand some major pieces of what Stevenson has written. He trusts Stevenson, and feels pretty confident in Stevenson's claims, but he just hasn't been able to spend the (large) amount of time it would take to figure it all out. Filmore tells Stevenson that he hasn't verified everything that Stevenson has written. The paper appears with one author never having verified significant pieces of it.

B16. *Jumping on a paper.* Josh attends a rump-session talk at a conference where Fred describes a result that Josh knows how to do. It's very frustrating for Josh. He had worked out this idea

nearly two years ago, but he never saw it as something interesting enough to publish. But presented as Fred described it, Josh can see that this really was something pretty significant. Fred has no writeup as yet available; he says at the rump-session talk that a writeup is forthcoming. A couple days later, Josh writes an email to Fred to explain that he had the same result nearly two years ago. Josh attaches an undated 3-page writeup that he later admits to have just written, but he says that it reflects work that he did long ago. He points to two other papers he had published in which related ideas appeared. Feeling he has no other choice, Fred invites Josh to join the paper.

B17. *Publishing in "LPUs."* Chris has seen his fellow-students publishing small, rather insignificant papers—what people sometimes jokingly call them *least publishable units* (LPUs). Chris regards this as a scientifically undesirable approach to publishing; he would prefer to be working on bigger problems and get just one or two, more substantial papers. But Chris' advisor himself publishes this way, and he advises Chris that he should have at least 8–10 papers to get a good position. Chris jumps on the bandwagon and manages to produce 15 papers as a graduate student, not one of any importance.

## 3   Reviewing papers

C1. *Trying to figure out the author of an anonymous submission.* You are reviewing an anonymous submission for a conference. You are very curious who are the authors. You do a Google search and successfully find a version of the paper on the web; it was already available from an author's web page. You do not believe that knowledge of the authors has influenced your review; you were simply curious.

C2. *Perceived conflict of interest.* You are given an anonymous paper to review that you just happen to know to be by: (a) a close friend of yours; (b) your former student; (c) your former advisor; or (d) a colleague at your own institution. You have no doubt that you can do a fair and honest review of the paper, and you believe that there is nobody better to do the review. So you do the review, which happens to be quite positive.

C3. *Killing a paper you're doing follow-up work on.* Avi is refereeing papers for a conference. He writes a mixed but on-balance negative review on submission $P$, and he argues against the paper's acceptance. He explains that while he actually likes paper $P$, he does not think it represents a desirable direction for conference publications; "this kind of work needs to go directly to a journal," Avi extols, "and, regardless, it's not adequately mature." Paper $P$ has been available on-line for several months, and Avi knows the paper very well; indeed, influenced by it, he's been doing his own follow-up work. Avi puts his own follow-on work on-line (to the same on-line repository) and continues to spend large amounts of time working on the topic.

C4. *Submission-inspired follow-on work, #1.* Mary reads a conference submission $P$ and it gives her a great idea for a piece of related work—a paper better than $P$ itself. Mary tries not to think about it, but one can't completely stop ones mind from working. Over the next couple of months, Mary realizes that she has a nice paper worked out in her head. As soon as $P$ is available, Mary writes up her follow-on work, $P'$ and, manages to get it submitted just one week later to a conference.

C5. *Submission-inspired follow-on work, #2.* Chad has served on many program committees this last year, reviewing in excess of 80 papers. They're all a bit of a blur by now. He gets the idea

for doing a paper that happens to be the same idea in one of the papers he reviewed, paper $P$. Chad wrote a pretty positive review on paper $P$, but it didn't get in. Chad kind-of-thinks he saw a submission on this topic, but he doesn't recall anything specific. Regardless, Chad remembers having thought about this notion years ago, long before he reviewed any paper on the topic. Chad and his student write a paper of their own on the topic, a paper that ends up appearing slightly before paper $P$ finally appears.

C6. *Quickly publishing in response to reviewing a paper.* Paul is asked to subreferee an anonymous submission. He is stunned to see that the topic is nearly identical to something he's been working on. He promptly puts his own paper out to an on-line repository to "secure" his priority date. The contents of Paul's paper were not influenced by the paper he reviewed, but his decision to release the paper now certainly was. The review he writes on the paper is fair, and in it he mentions in the for-PC-member-only comments that he himself has done related work that he has just put out to the web.

C7. *Passing on PC-committee comments to an author in order to correct a technical misunder-standing.* Sandeep's paper is getting severely criticized in PC comments and it appears to Van, who's on the PC, that the paper will get rejected. Van suspects that the criticism of Sandeep's paper is technically incorrect, as well as biased, and he suspects that Sandeep could easily refute it. Van shares with Sandeep the substance of the PC's criticism, sending along some excerpts from the review comments and web-mediated discussion. Van redacts the comments to remove names. Sandeep responds that the criticism is indeed invalid, and he explains the technical reasons why this is so. Van explains this to the PC, using modified text from Sandeep in his comments. After that, the paper does get in.

# 4  Writing grant proposals

D1. *Grant proposal for essentially-completed work.* Prof. Dalton submits an NSF grant proposal in which the centerpiece of the proposal talks about a problem for which Prof. Dalton already has a completed paper $P$. He describes the problem solved by paper $P$ and a "promising approach" that one might take, but he omits mention of the fact that he already has a finished but unpublished paper on this topic and using this approach. Prof. Dalton reasons that he may well do follow-up work on this topic—that paper $P$ might be just the beginning. In any case, Prof. Dalton feels that it is perfectly routine to write up in a grant proposal work that is unpublished but complete or nearly complete.

D2. *Disingenuous grant proposal.* Prof. Artin and his student Tom put together a DARPA pro-posal on a topic they have minimal actual interest in. Prof. Artin sprinkles repeated mention of "homeland security" in the proposal, as well as mention of some more specific potential military and intelligence applications. He includes some sentences, paragraphs, and even sec-tions that read to Tom (and probably to Prof. Artin) as though he is trying to bullshit the reviewers. The language and content rubs Tom the wrong way, and he obliquely mentions this to his advisor. Prof. Artin answers that getting grants is always a rather disingenuous game, and that this is how it is played. He also says that, if the grant is funded, it will not be important to carry out the work so as to have the indicated applications. "But the program manager will have to demonstrate to his boss that he's funding militarily useful research, even if we know that it's not. I doubt there's a homeland-security connection, and, regardless, I'm not interested in that angle, but we have to include some language in this direction or it won't fly." Tom does his part, writing up the sections that Prof. Artin requests.

# 5 The social context

E1. *Ignoring the broader context of ones work.* Rachel, a 3$^{rd}$ year grad student, regards herself as politically progressive. She has worked with local store owners to get them to carry free-trade coffee; she went to protests against the war in Iraq; she volunteers time and gives money to the group "Common Cause." Recently Rachel learned that the grant that is funding her work is actually part of the ASC project at Livermore Labs, a program aimed to let scientists better simulate the explosion of nuclear fusion weapons. From the little Rachel knows of it, she suspects that she would disapprove of the project's goals. Rachel's work is in visualization, and she has no idea why it would be the least bit relevant to an organization that focuses on nuclear weapons. When she asked her advisor about the connection he became noticeably irritable and said that a lab like Livermore has broad scientific interests, adding that all scientific work has potential for good and for bad. Rachel is already deeply involved in her thesis work and she decides that it is best not to explore why her work is being funded by Livermore.

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