

Academic Integrity Scenarios Typical in Computer Science

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How we should behave as academic computer scientists is shaped by social norms that are not entirely obvious yet are not routinely taught. One approach to surfacing these norms is to look at real-world scenarios. All of the following ones are true; they are things I've seen myself, or heard about from others. In each case, think about the issues involved and try to figure out what, if anything, should be done instead.

A. Student Life

- A1. *Project double-use.* Celia 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 Celia never mentions to them that she is doing this. (Variant: the project Celia 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.* Alfred, a second-year graduate student, asks for a homework extension because he'll be going to a conference when it's due. Prof. Nash provides an extension. But, for the benefit of the other students, Prof. Nash posts the solutions for the homework before Alfred turns his own in. Prof. Nash sees that one of the problems was copied from the posted solutions. Nash confronts Alfred, who admits to having looked at the solutions. But he counters that Nash never told him not to consult the solutions. "Anyway, this is a graduate class," Alfred says, "and my focus is research. If I want to copy a problem solution you posted, what's the harm in that?"
- A3. *Signing an attendance sheet.* First year students are required to attend a weekly seminar that counts as a course. The only requirement expectation 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 just 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.

B. Authoring Papers

- B1. *Double submission, #1.* Lester has submitted a paper to conference *A*. Notifications will go out Feb 10 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 office mate, "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 to the PC Chair.* Till just got an email saying that his submission was rejected. Two of the reviewers are quite positive, while the negative one is just plain wrong. Till is upset. He writes a note to the Program Chair to complain that the PC member who wrote the comments is either an idiot or that he didn’t read the paper.
- B4. *Fast to respond.* Professor and Student have submitted a paper to a conference. Student is named as the contact author on the submission form. The conference has no formalized author-response phase, but sometimes program committee members have questions that the Program Chair anonymously forwards to the contact author. Student receives such an email asking a question about the submission. Student knows the answer, and promptly returns a response, copying the professor. When Professor sees the email the next morning he is furious: it may be technically accurate, but it is badly explained, full of typos, and quite informal.
- B5. *Plagiarizing incidental content.* Xin and her coauthors are writing a paper in cryptography. For the definitions section of their paper they copy three paragraphs (13 sentences) 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.
- B6. *Self-plagiarizing incidental content.* Rushing to meet a submission deadline, Dr. Zeaus copies the definitions section from his own prior paper. The section begins: *For definitions, we closely follow Zeaus [17].* A slightly modified definition section (13 sentences) from Zeaus’ prior paper then follows. New definitions are not a contribution of the paper. Submissions are anonymous.
- B7. *Professor/student affair.* 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 the faculty have not. Matín is not Jill’s official advisor, but he has been her frequent collaborator, helping her out on several papers. By mutual consent, Matín is not named as a co-author on these papers. 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. They have become cynical over her success.
- B8. *Non-standard author ordering.* Prof. Nice 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 each has contributed approximately equally. In order to help Mr. Lee’s chances of getting a good job, Prof. Nice says to order the names as “Lee and Nice” instead of “Nice and Lee.” The order is irrelevant to Nice’s career, but relevant to Lee’s. Also, some areas of computer science routinely list graduate students first.
- B9. *Authorship for minimally-contributing party, #1.* Joe, a soon-to-graduate grad student, has an interesting problem he wants solved. He has been separately talking about the problem to Phil (a more junior grad student) and Fred (a senior researcher). Finally, Joe and Fred nail it. Joe tells Fred that Phil needs to be invited as a coauthor on the paper, because Phil has been working on the problem with him. Joe says it’s random that things finally worked out from his discussions with Fred and not with Phil. Phil helps out a bit in the writeup, but the final paper reflects no significant ideas from him, and only a small amount of writing.
- B10. *Authorship for minimally-contributing party, #2* Frank is working on a systems project with his advisor and several other students. A six-author paper coming out of this project is about to be submitted. Frank isn’t sure why all these people are authors, but he tells his advisor that he had little to do with the paper, contributing no real ideas, spending two days helping out on an experiment, and making a quick proofreading pass. Frank’s advisor says that’s enough. He adds that it’s important for Frank’s career to be on as as many papers as possible, and that some of the coauthors contributed less.

- B11. *Withdrawing a buggy submission.* Dr. Opt and Dr. Pes submit a paper to a top conference. Three weeks after submission, Dr. Pes discovers that there's a bug in the proof of one of the theorems. The theorem is one of several in the paper, but it's a key one. Neither Opt nor Pes know how to fix the problem right now. Pes thinks that the problem might be difficult to fix, while Opt believes that he can fix the problem in a week or two of time. He sets out to do so. Pes says that the paper should be withdrawn immediately. Opt says to lighten up, keep working, and just make sure the problem is fixed before the PC decision. "If the paper gets in and we still haven't figured out how to fix the problem by then, we'll say we found a bug and withdraw the paper. But almost certainly we'll have fixed the problem, the PC won't have noticed it, and we'll fix the proof for the final version."
- B12. *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." The authors knew very well that there are foundational issues in what they are doing. Soon there are dozens of follow-on papers that not only build on P , but copy its informality. Omar knows that he and his coauthors *should* do a full version of P , but doing so is very hard. For a decade, the full version does not get written.
- B13. *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.
- B14. *Missing software, #1.* Jack has written a useful program that he lists among the contributions of a corresponding academic paper. In the paper Jack promises to release the code. But the code is badly written and embarrassing to release. A year after the conference, busy with other things, Jack has yet to clean up the code and get it to the web.
- B15. *Missing software, #2.* Jill has written a useful program that she lists among the contributions of a corresponding academic paper. In the paper Jill promises to release the code. Soon after the conference Jill begins doing followup work that depends on the code. She knows that other groups, who have requested the tool, may become competitors in a race to do similar followup work. Jill decides to postpone release of the code for 3–4 months.
- B16. *Unchecked reference.* Sam includes a reference to a paper P that he sees in the bibliography of several papers he's using. The paper is regarded as an important one, but 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.
- B17. *Paper with content an author has not verified.* Filmore and Stevenson author a paper together. Each author has been responsible for certain sections. Filmore doesn't understand some major pieces of what Stevenson has written. He trusts Stevenson, but he just hasn't been able to spend the time it would take to figure it all out. Filmore does tell Stevenson that he hasn't verified everything the other has done.
- B18. *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 seeing it presented by Fred, it clicks with Josh that this actually *is* something 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 ideas from long ago. He points to two other papers he had published in which related ideas are explicit. Feeling he has no other choice, Fred invites Josh to join the paper.
- B19. *Publishing in LPUs.* Chris has seen his fellow-students publishing small, rather insignificant papers—what people sometimes disparagingly call *least publishable units* (LPUs). Chris regards this as scientifically undesirable; he would prefer to be working on bigger problems and get just one or two, but more important, papers done. But Chris' advisor himself publishes lots of "small" papers, and he explains that Chris will need 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, none of much use.
- B20. *Not reading your own papers.* Prof. Big manages a team of 15 graduate students, three postdocs, and two visiting scholars. He publishes more than 30 papers a year, some of them quite important and influential. With new papers sometimes coming out

at more than one a week, Prof. Big can't really read all the papers with his name. One of Big's graduate students is overhead in the hall: *well, he hasn't read our paper, he hardly reads any of these, but we have discussed what's there.*

- B21. *Badly written paper.* Lin submits a badly written paper. It's sloppy, poorly organized, and fully of grammatical errors. Some of these are hard for Lin to correct because she's not a native speaker. Despite the problem, Lin knows that there's a chance that the paper will get in, for it has an interesting idea and some of the reviewers can be counted on to forgive matters that are purely presentational.
- B22. *Poorly described history.* Olan is preparing the final version for a paper whose related-work section he hasn't spent much time on: "The most closely related constructive work consists of [4,6,12,13,15,18], while [3,4,8–10] take a more theoretical approach." In fact, Olan doesn't understand the history all that well, but he's sure the work is novel, and it must have met that bar by virtue of its acceptance into a tier-1 venue.

C. Reviewing

- 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 the authors are. 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 one's 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 that maybe 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 after 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-members-only comments that he himself has done related work that he has just put out to the web.
- C7. *Sending PC-comments to an author in order to correct a technical misunderstanding.* 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.

- C8. *Reviewer becomes coauthor.* Alice subreviews paper P for a conference C . The paper is rejected, but Alice’s review has ideas that lead P ’s authors to a stronger submission P' that gets submitted to conference C' . It gets re-reviewed by Alice, who likes the new version. The paper gets accepted for C' . A little before the final version is due, the authors decide that the anonymous review they earlier received was important enough that the reviewer ought to be invited as a coauthor. The authors go to the Program Chair for C and the relevant parties agree to disclose Alice’s identity. The authors invite Alice onto the paper. She accepts and gets added on as an author. She doesn’t say anything to the Program Chair of C' about the situation, nor does she tell her coauthors that she was one of the reviewers. At the conference, a non-PC member comes up to ask: *Can you tell what happened with the submission that has an author who earlier reviewed the paper?* The Chair is clueless.

D. Grants

- 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 an in-submission paper on this topic using this approach. Prof. Dalton reasons that he may well do follow-up work on this topic—that paper P might, perhaps, be just the beginning. In any case, Prof. Dalton feels that it quite routine to write a grant proposal for work that is unpublished but complete or nearly so.
- D2. *Disingenuous grant proposal.* Prof. Artin and his student Tom put together a DARPA proposal

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 sections that read to Tom (and probably to Prof. Artin) as though he is trying to bullshit the reviewers about unlikely, and maybe even undesirable, homeland security applications. The language and content rubs Tom the wrong way, and he obliquely mentions this to his advisor. Prof. Artin answers that getting grants is really just a game, and that this is how it’s played. He says that, if the grant is funded, it will not be necessary to carry out the work so as to have the indicated applications. Finally, he adds that the program manager will have to demonstrate to his own boss that he’s funding militarily useful research, even if we and the program manager know that it is not. Tom does his part, writing up the sections that Prof. Artin requests.

E. The Social Context

- E1. *Ignoring the broader context of ones work.* Rachel, a third-year grad student, regards herself as politically progressive. Recently Rachel learned that the grant that is funding her work is part of the ASC project at LLNL, 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 work. When she asked her advisor about the connection, he became visibly irritable and said that a lab like LLNL 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 th lab.

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