Professional Ethics

CS 4002 – Robots and Society

[Some material adapted from K.W. Bowyer]

Why an Ethical Code?

• Guidance to handle ethical situations during career

• Personal code of ethics may be difficult to apply due to generality and special cases
Relevant Professional Societies

• Association for Computing Machinery (ACM)
• Institute for Electrical and Electronic Engineers (IEEE)
  – Computer Society
  – Robotics and Automation Society
  – Society for Social Implications of Technology

Goals of a Professional Code

• Define Professional Courtesy – treatment of colleagues
• Protect Society’s and member’s group interests
• Establish a level of professionalism
• Inspire good conduct among members
• Basis for disciplining membership
Goals of a Professional Code (2)

- Educate membership regarding ethical standards
- Establish principles to maintain
- Express ideals
- Provide guidelines for gray areas
- Establish basis for external relationships with others outside of profession
- Codify rights of members

IEEE Code of Ethics

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

1. to accept responsibility in making engineering decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;
2. to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;
3. to be honest and realistic in stating claims or estimates based on available data;
4. to reject bribery in all its forms;
5. to improve the understanding of technology, its appropriate application, and potential consequences;
IEEE Code of Ethics (2)

6. to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;

7. to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;

8. to treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;

9. to avoid injuring others, their property, reputation, or employment by false or malicious action;

10. to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

ACM Code of Ethics and Professional Conduct

• The code consists of 24 imperatives formulated as statements of personal responsibility.

• Supplemented with a set of guidelines to explain issues in the code.

(Code is Copyright 1997, Association for Computing Machinery, Inc.)
ACM Section 1:
General Moral Imperatives

As an ACM Member I will …

• Contribute to society and human well-being
• Avoid harm to others
• Be honest and trustworthy
• Be fair and take action not to discriminate
• Honor property rights including copyrights and patent
• Give proper credit for intellectual property
• Respect the privacy of others
• Honor confidentiality

ACM Section 2:
Specific Professional Responsibilities

As an ACM computing professional I will …

• Strive to achieve the highest quality, effectiveness and dignity in both the process and products of professional work
• Acquire and maintain professional competence.
• Know and respect existing laws pertaining to professional work
• Accept and provide appropriate professional review
ACM Section 2 (continued):
Specific Professional Responsibilities

As an ACM computing professional I will …
5. Give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks
6. Honor contracts, agreements, and assigned responsibilities
7. Improve public understanding of computing and its consequences
8. Access computing and communication resources only when authorized to do so.

ACM Section 3:
Organizational Leadership Imperatives

As an ACM Member and an organizational leader I will …

• Articulate social responsibilities of members of an organizational unit and encourage full acceptance of those responsibilities
• Manage personnel and resources to design and build information systems that enhance the quality of working life
• Acknowledge and support proper and authorized uses of an organization’s computing and communication resources
ACM Section 3 (Continued):
Organizational Leadership Imperatives
As an ACM Member and an organizational leader I will …

4. Ensure that users and those who will be affected by a system have their needs clearly articulated during the assessment and design of requirements; later the system must be validated to meet requirements

5. Articulate and support policies that protect the dignity of users and others affected by a computing system

6. Create opportunities for members of the organization to learn the principles and limitations of computer systems

ACM Section 1:
Compliance with the Code
As an ACM Member I will …

• Uphold and promote the principles of this Code
• Treat violations of this code as inconsistent with membership in the ACM
Plagiarism: IEEE Guidelines

- Five levels of Plagiarism defined
- Specific punishments delineated

5 levels of Plagiarism (IEEE)

1. Uncredited verbatim copying of a full paper.
   Results in a violation notice in the later article’s bibliographic record and a suspension of the offender’s IEEE publication privileges for up to five years.

2. Uncredited verbatim copying of a large portion (up to half) of a paper.
   Results in a violation notice in the later article’s bibliographic record and a suspension of publication privileges for up to five years.

3. Uncredited verbatim copying of individual elements such as sentences, paragraphs, or illustrations.
   May result in a violation notice in the later article’s bibliographic record. In addition, a written apology must be submitted to the original creator to avoid suspension of publication privileges for up to three years.

4. Uncredited improper paraphrasing of pages or paragraphs (by changing a few words or phrases or rearranging the original sentence order).
   Calls for a written apology to avoid suspension of publication privileges and a possible violation notice in the later article’s bibliographic record.

5. Credited verbatim copying of a major portion of a paper without clear delineation of who did or wrote what.
   Requires a written apology, and to avoid suspension, the document must be corrected.
What Is Plagiarism?

Plagiarism is...

...to present as new and original an idea or product derived from an existing source.
Merriam Webster’s Collegiate Dictionary (10th edition)

...to take and use as one’s own the writings or ideas of another.
The American Heritage Dictionary (2nd College Ed.)

...the reuse of someone else’s prior ideas, processes, results, or words without explicitly acknowledging the original author and source.
IEEE PSPB Operations Manual (from Section 8.2.1.B.7)
Why Is Plagiarism a Serious Offense?

To reuse someone else’s work and make it appear to be your own denies the original author credit for his or her contributions to the research and to Society.

If you neglect to properly cite the work you borrow, either by choice or by accident, you are committing plagiarism.

It is important for all IEEE authors to recognize that plagiarism in any form, at any level, is unacceptable and is considered a serious breach of professional and ethical conduct.

It should also be noted that plagiarism is a type of copyright infringement, and as such may also subject an author to legal liability.
At IEEE, acts of plagiarism are categorized into five levels, or degrees, of misconduct, ranging from the most serious (Level One) to the least serious (Level Five).

Click on the thermometer to view a description of each level.

**Level One**: The uncredited verbatim copying of a full paper, or the verbatim copying of a major portion (greater than half of the original paper).

**Level Two**: The uncredited verbatim copying of a large portion (less than half of the original paper).

**Level Three**: The uncredited verbatim copying of individual elements (e.g., paragraphs, sentences, figures).

**Level Four**: The uncredited improper paraphrasing of pages or paragraphs.

**Level Five**: The credited verbatim copying of a major portion of a paper without clear delineation (e.g., quotes or indents).

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The Five Levels of Corrective Actions

**Level One:**
- Publication of a Notice of Violation of Publication Principles in IEEE Xplore and in the appropriate IEEE publication.
- Prohibition of publication in all IEEE-copyrighted publications by the offending author(s) for 3 to 5 years.
- Rejection and return of all papers by the author(s) that are currently in review or in any IEEE publication queue (papers may be re-submitted after prohibition term has expired).
The Five Levels of Corrective Actions

Level Two:
- Publication of a Notice of Violation of Publication Principles in IEEE Xplore and in the appropriate IEEE publication
- Prohibition of publication in all IEEE-copyrighted publications by the offending authors(s) for 1 to 3 years.
- Rejection and return of all papers by the author(s) that are currently in review or in any IEEE publication queue (papers may be re-submitted after prohibition term has expired).

Level Three:
Offending author(s) prepare and submit apology to the plagiarized author(s) and to the editor of the publication where the plagiarized work was submitted.

Level Four:
Offending author(s) prepare and submit apology to the plagiarized author(s) and publication editor.

Level Five:
Offending author(s) prepare and submit apology to the original author(s) and publication editor, and prepare correction or retraction and submit this document to the editor for publication.
How Can I Avoid Plagiarizing?

If Author A would like to use text, charts, photographs, or other graphics from Author B’s original material, then Author A must do two important things:

1. Clearly indicate the reused material by using quotation marks or indentations and provide a full reference to the original material (publication title, author name, article title, etc.)

2. Obtain written permission from the publisher or, if the reused material has not been published, obtain written permission from the original author.
If you are an IEEE author and have discovered that your IEEE work was reused inappropriately either in another IEEE publication or in a non-IEEE publication, then you should prepare a “case” by collecting as much material as possible. For example,

1. A marked copy of your original paper showing the specific text that was reused
2. A marked copy of the paper in which your uncredited work appears showing your specific text
3. A written description of the alleged misconduct
4. Copies of any communications you might have already had with the "authors" who may have misused your work.

Once you have collected all the necessary material, you should submit your case to the editor of the publication (or the sponsoring IEEE Society of the publication) in which the misconduct occurred. If the contact information for the editor is unavailable, you should send your case to the IEEE Intellectual Property Rights Office (see contact info at the end of this presentation).
Self-Plagiarism (ACM)

• What constitutes legitimate reuse of your own writing?
• Detrimental effects
  – Public appearance that research funding is spent rehashing old results
  – May indicate that academic dishonesty is not a serious issue
  – Rewards authors who follow LPU principle instead of those who publish only once
  – Publication of self-plagiarized paper prevents publication of a more deserving paper

Terms

• Textual reuse (copying words/images from previously published work)
• Semantic reuse (copying ideas from previously published work)
• Blatant reuse – verbatim copying
• Incidental reuse – not directly related to new concept being presented
• Reuse by cryptomnesia – unknowingly incorporating ideas from previous uncited work
• Opaque reuse – using ideas from related work without credit
• Advocacy reuse – incorporating text/ideas from previous work but presenting in a new community
What is ethically allowable?

- Collberg and Kobourov (4/2005 CACM) presented scenarios to community (results presented on following slides)
- Wide divergence of opinion
Our second question asked if the respondents themselves worry about reusing material from previous papers:

(g) "I always rewrite every paper from scratch."

(h) "No, I don't really worry too much about this."

(i) "For sure. I think there's a strong sense that CS papers should be largely self-contained and that inevitably means duplication."

We next sketched a few reuse scenarios and asked whether the respondents thought they would be cause for concern. The first scenario asked about "two conference papers sharing word-for-word introductions and/or related work sections."

(j) "I think this is very disturbing. As a reviewer, this gives me a very negative impression of the paper and makes me suspicious about the content as well."

(k) "Not a big deal."

(l) "This is something I've done to some extent [...] but the way I deal with it is by thinking that I'll rewrite it if the paper is accepted."
The second scenario asked about “two papers that are essentially the same but sent to different relevant communities (to advertise a single result):”

(m) “This is not acceptable.”

(n) “I think this [deserves] public flogging.”

(o) “Probably OK, provided the papers are substantially rewritten for the two different communities and reference is made in one paper to the other.”

(p) “If I consider the purpose of publication to be the dissemination of results [...] I don’t consider this unethical. From the point of view of using publication counting to evaluate performance, such practices probably hurt this system, but since publication counting is idiotic anyway, I don’t see this as unethical.”

The fourth scenario asked about “a conference paper and a journal version of the same paper that are virtually identical (95% or more).” Most respondents agreed that this was acceptable, or should even be encouraged:

(r) “We need conferences to advertise results quickly and journals to archive those results for longer periods of time.”
Our final question asked if the respondents thought self-plagiarism in the computing community is a problem that deserves more attention:

(s) “I think it’s a problem, yes, but mainly as a symptom of a deeper problem: the superficiality of the methods used to evaluate academic contribution.”

(t) “It is a problem that any program chair or journal editor must be aware of. It would be nice to have some automated way of checking for similar publications when reviewing papers.”

(u) “I don’t think this is a big problem. Real plagiarism is much worse, as is pre-plagiarism, where someone hears about a new result, either from the inventor or second-hand, and then goes on to reproduce and publish that result himself.”

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Ethical Questions Raised by self-plagiarism

- Should conferences and journals provide guidelines describing in more detail what practices will be considered self-plagiarism and detailing the process of dealing with such practices?
- Should the burden of detecting and dealing with plagiarism and self-plagiarism be on professional organizations and publishers?
- Should paper reviewers become plagiarism police?
- What should the consequences be when we find a paper we feel has been self-plagiarized? The chair of C, simply rejected the paper although several pages had already appeared in print. The chair of C, on the other hand, felt that the unethical nature of the incident warranted further actions, but stopped short of reporting to the author’s department chair.
Differences from Some other Non-Technical Ethical Codes

- AMA Principles of Medical Ethics
- APA Ethical Principles of Psychologists

Regarding non-discrimination

- IEEE/ACM address explicitly race, gender, religion, disability, age, national origin
- ACM’s adds “other such factors”
- AMA, APA consider sexual orientation/preference in addition
Corrective Legislation

- APA and AMA explicitly address changing laws that are not considered of benefit to society
- IEEE does not mention
- ACM speaks of challenging inappropriate legislation coupled with compliance

Charity

- AMA and APA promote broader social responsibility and charity
- ACM/IEEE no specific mention
Incompetent Performance

- AMA/APA encourage exposing incompetence
- ACM/IEEE not stated clearly

Promulgation of misleading results

- APA/AMA discourage
- ACM/IEEE little coverage
Weaknesses of Professional Ethical Codes

- Punishment at best is weak
- Does not cover all aspects of professional and personal life
- Set of rules does not really define ethical behavior
- Must be supplemented by personal ethical code