Ethics and Social Responsibility

Teaching in Informatics

Goals

- Update on curriculum changes

- Reflect on current delivery

- Discuss how to deliver this material

Why?

- Informatics is a heavily applied discipline.

- Wields a great and growing influence.

- Cannot and should not be separated from the context in which it is applied.

- Aim to produce graduates matured in their ability to recognise and tackle these issues.

Accreditation

- BCS: "Programmes seeking accreditation must cover and assess the legal, social, ethical, and professional issues (LSEPIs) relating to computing."

- Open challenge: "Students should not perceive LSEPIs as peripheral to, or less significant than, technical skills detailed in the syllabus."

Course name	Level	Material
Professional Issues	10	Privacy and Security aspects are covered in few lectures.
System Design Project	9	Students encouraged to look at ethical / social impacts of their projects. Varies by group.
Advanced Vision	11	introductory mini-lecture (5 min)
Usable Security and Privacy	11	There is a lecture dedicated to Ethics. The content is mostly based on Menlo report, and getting consent from participants.
Human-Computer Interaction	11	There is a lecture dedicated to Ethics. The content is mostly based on Menlo report, and getting consent from participants.
Natural Language Understanding, Generation, and Machine Translation (NLU+)	11	1. Ethics and bias in NLP
		2. Ethics continued, measuring bias
		3. Representations are biased
		+ Maria's Guest lecture covering the School's Ethics process
Machine Learning and Pattern Recognition	11	MLPR mentions privacy issues with a case study. In few lectures, it mentions the care that would be required when applying any algorithms to settings that might impact people's lives
Decision Making in Robots and Autonomous Agents (DMR)	11	Few lectures in safety, explainability, privacy. A lecture about ethics will be introduced next year.
Case Studies in Design Informatics 1 (CDI1)	11	There is a lecture called 'Ethics in Design Research'. There is a tutorial about 'Thematic Analysis' and another tutorial about 'How to apply for Ethical Approval'.
Accelerated Natural Language Processing (ANLP)	11	1. Data, evaluation, implications (2): use and collection of human data, including social media and assignment 2
		2. Data, evaluation, implications (3): evaluation, claims, and evidence
		3. Guest lecture on ethical issues in NLP
		4. Gender bias (esp in coreference)
Doing Research in Natural Language Processing	11	A week is spent on Shannon Vallor's "An Introduction to Data Ethics" book
Artificial Intelligence, Present and Future	11	Two lectures about Social and Ethical Issues

Courtesy of Nadin Kokciyan

Curriculum Changes (Second Year)

Foundations of Data Science

- Sample bias, licensing, privacy issues
- Visualization: misleading plots, colour and accessibility
- Classification: algorithmic bias, discrimination
- Development vs deployment; does using the system change the data distribution?

SE and Professional Practice

- Professional Responsibility (with reference to ACM Code of Conduct)

Updates to Professional Issues the following year

Curriculum Questions

- What else should we be teaching?

- Where else should we be teaching it?

- What should be required/optional?

- How do we monitor and maintain a distributed approach?

Delivery

- How best to deliver this material?
  - Guest lectures are a double-edged sword
- Challenges/opportunities for delivery online
- How do we assess?
  - Challenge of large courses
- How do we motivate?
  - Let them know it will be a part of their assessment (SDP, Honours proj?)

More Delivery

- Maintaining consistency across programmes
  - Introduction is important framing
- Resource requirements (tutors/demonstrators)
- Relation to "soft skills" development
- Staff as role models
  - Ethical course delivery

Resources

- [BCS Accreditation Guidelines](#)
- [BCS Code of Conduct](#)
- [ACM Code of Ethics and Professional Conduct](#)
- [Curriculum Plan](#)