A SOFTWARE ENGINEER'S OATH: PERCEPTIONS OF COMPUTER ETHICS IN A MULTICULTURAL CLASSROOM

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SIMONA VASILACHE

- 13 years teaching at the University of Tsukuba, Japan
- English programs - multicultural classrooms

- Major interests
  - Human-computer interaction
  - Global software engineering
  - Multicultural instruction, intercultural communication

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UNIVERSITY OF TSUKUBA

- ~50 km from Tokyo
- top 10 universities in Japan
- 2nd largest campus in Japan
- ~17.000 students in total
- ~2700 international students
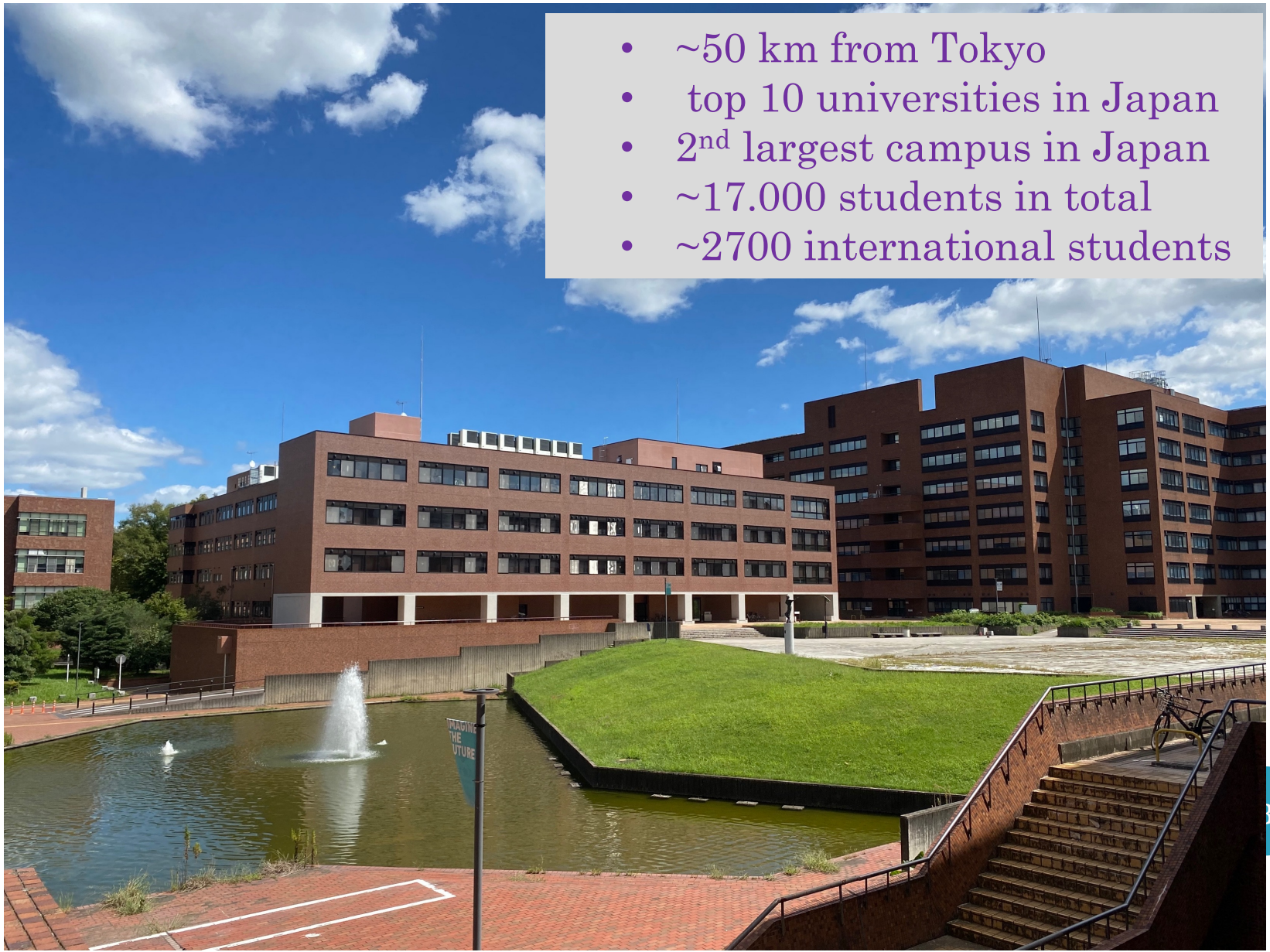
SOFTWARE ENGINEERING EDUCATION

- **Theory**
  - Computer science basics
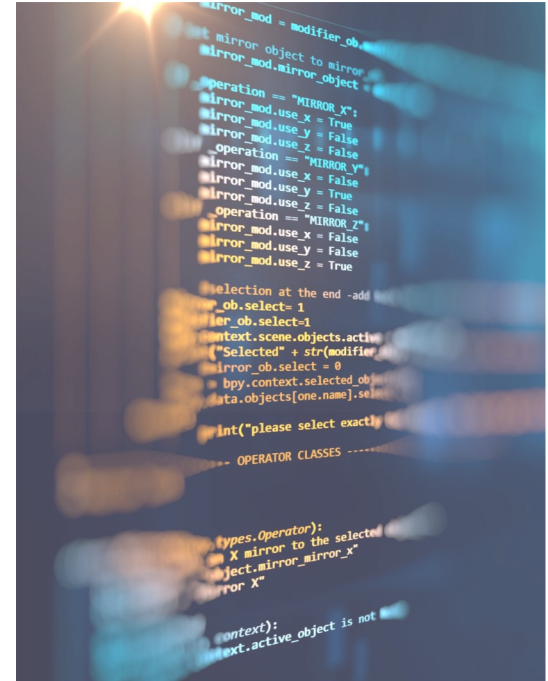 - Theories, concepts
- **Practice**
  - Implementation methodologies
  - "Programming"
- **Ethics**
  - **Ethical issues**
  - **"Moral principles guiding behaviour"**

- Our work: example of **computer ethics** course
  - Empirical observations, questionnaires
  - Students' feedback

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COURSE DESCRIPTION

- *"Topics in Computer Ethics"*
- University of Tsukuba, Japan
- Master's course in computer science
- Mixture of Japanese and international students

- Topics:
  - *Introduction to ethics*
  - *Algorithmic fairness and big data*
  - *Privacy and surveillance*
  - *Autonomous weapons; autonomous cars*
  - *Ethics of artificial intelligence*
  - *Intellectual property in the digital age*
  - *Healthcare and information technology*
  - *Cyberspace and internet regulation*
  - *Social media and society*

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CLASS FLOW

- Beginning: "warm-up" discussion, followed by new-topic brief discussion
- **New concepts ("lecture")**
                 &
- **Class activities**
  - Discussions - plenary and in groups
  - Group tasks
- End: "cool-down" (mini) activity/discussion

- Very animated discussions!

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CLASS DISCUSSIONS&ACTIVITIES

- Seen from various points of view
  - utilitarian, rights, justice, virtue, common good

- Examples
  - Continuous surveillance in the workplace
  - Robots as educators
  - Social media and personal beliefs
  - Emotional attachment to AI companions
  - Robots – rights and moral status
  - Generative AI use – improved life or not
  - Sharing entire medical history&data for the greater good
  etc.

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STUDENTS' COMMENTS

"This course taught me much more than ethics in computer science, it also taught me life ethics"

"I really enjoyed the classes and discussions, there were many interesting points of view"

"it might be more interesting to have a voting system […] for some discussions so we know our weak points or […] thinking about everyone and not just giving a selfish opinion"

"many things that I never considered because we all were raised in different environments"

"I didn't want this course to end"

"I don't think I ever had so much fun during a class before!"

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"SOFTWARE ENGINEER'S OATH" ASSIGNMENT

- *"Responsibility"*

[…] What kind of responsibilities do you think computer scientists (should) have in society?

[…] Imagine that all computer scientists need to take an oath (similar to the Hippocratic Oath in medicine). What should be included in this pledge?

Would culture play a role in the contents of such a pledge?

NB: Ackowledged existing code of ethics (IEEE, ACM etc.)
Focus: students' own opinions and suggestions

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PROPOSING AN "OATH" – RECURRING THEMES

- "People (users) first" - Improving people's lives
- Disregarding financial incentives
- Doing no harm
- Providing "digital knowledge" to everyone
- Clarifying limitations of technology
- Safeguarding against misuse
- Continuous learning
- Collaboration with fellow scientists

- *"I will not publish any code that I have not responsibly tested."*
- *"It's hard for a computer scientist to see through the eyes of a criminal […] but [they] must be prepared."*
- *"Our society is not the same as it was 10 years ago, so it is easy to see that culture changed in a few years. The oath would also change over time."*

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PROPOSING AN "OATH" – ROLE OF CULTURE

- Majority opinion:

Different cultures → different values → reflected in the oath

- Notable example:
- *"Some cultures are more concerned with protecting people's privacy and consider surveillance in public places to be an invasion of personal privacy. But some countries see it as an effective protection for the residents."*

- Other opinions:

- No place for cultural differences
  "We all share the same space on the internet"

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Conclusions

- Computer ethics course – high level of student engagement

- Students: aware that **ethics** is important for a software engineer

- Students: aware of **cultural differences**
  → they should be reflected in computer ethics

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