



Scoping your HCAI project

The 'AI' in HCAI

Research question must be specific to artificial intelligence

- Can the RQ be answered if the system was not “AI”?
 - If yes, what is the additional nuance or difference from AI?
 - How will you design your study to target this nuance?
 - E.g., “challenges faced by software developers in building AI.”

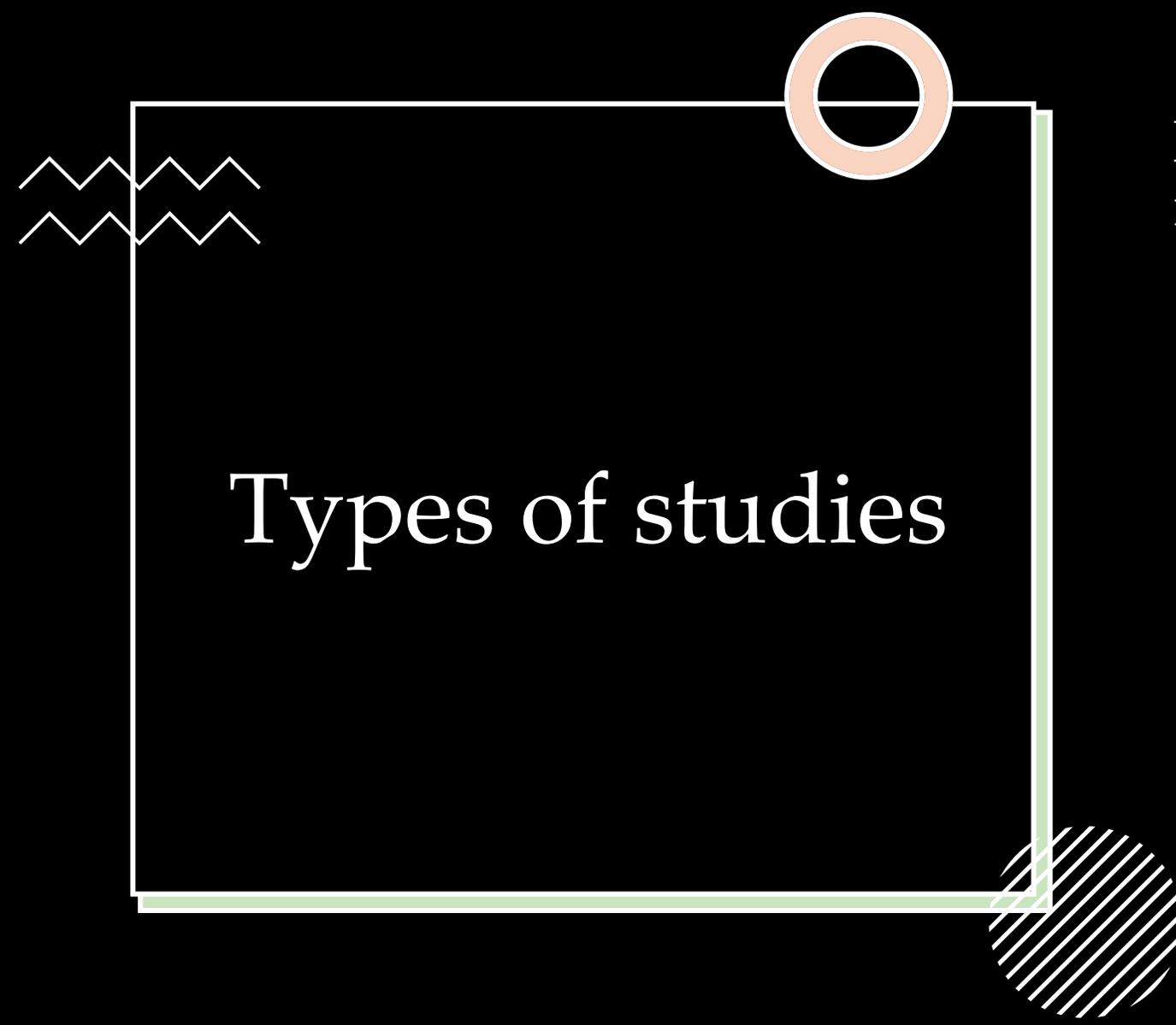
Generative AI

Many of our taught examples use “older” types of AI. e.g., Naive Bayes, decision trees, k-NNs, SVMs, older neural network approaches (CNNs, RNNs, etc.)

Important because:

- humans change more slowly than technology (e.g., uncertainty, trust & reliance, agency & control)
- understanding how the field has evolved is important to participate in it
- This, too, shall pass

Your project does not have to be about GenAI



Types of studies

Many ways to investigate a research question

- Surveys
- Interviews
- Analysis of online corpora
- Design probe
- Controlled experiment
- Telemetric study

Materials for a study

Will you be building something? What will you build?

- Low/medium fidelity mockups (sketches, slideshows)
- Wizard of Oz prototyping
- Off-the-shelf products
 - With interventions
 - Need to be able to influence variables of interest, and control others.
- Functional prototype(s)

Some successful past projects

- Assessing public perception of self-driving cars: the autonomous vehicle acceptance model
 - Charlie Hewitt, ACM IUI, 190+ citations
- Comparative judgments are more consistent than binary classification for labelling word complexity
 - Sian Gooding, ACL LAW
- Perceptions of chatbots in therapy
 - Samuel Bell, ACM CHI, 50+ citations
- Do we need natural language? Exploring restricted language interfaces for complex domains
 - Jesse Mu, ACM CHI

Projects require ethical review

- Review the Cambridge Technology Ethics guide
 - What kind of study are you planning?
 - What potential concerns might there be?
 - What will you do to address them?
- Submit a proposal to the Computer Science Ethics committee, giving above details
 - <https://dbwebserver.cl.cam.ac.uk/Administration/Ethics/EthicsRequest.aspx>
 - (accessible from department VPN, using department login not Raven)

Review of feedback timetable

(submit by noon each Monday)

- Week 2 - Research question (200 words) + a sample diary entry
 - Week 3 - Study design (400 words)
 - Week 4 - Another sample diary entry
 - Week 5 - Draft literature review for final report (400 words)
 - Week 6 - Draft introduction to report (200 words)
 - Week 7 - Draft results section for report (400 words)
 - Week 8 - Draft discussion section for report (200 words)
- + keep up with diary entries every week – not graded, but you collect them together with the summary in the end into a single PDF.

**New RSP Unit:
Research Design for Human Participants
Friday 13 October – 9:00 in FW26**

The unit will provide an overview of qualitative data collection and analysis, the construction of open and closed research questions, the design of controlled experiments with human participants, and threats to validity of research.