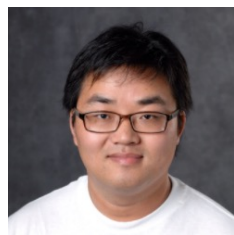


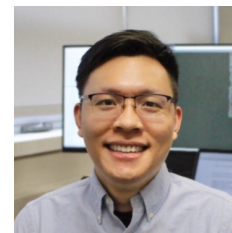
Introduction



Jiliang Tang



Privacy



Xiaorui Liu



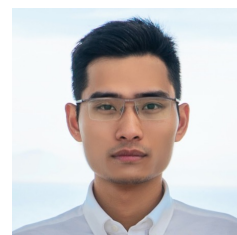
Safety & Robustness



Yaxin Li



Explainability



Wenqi Fan



Non-discrimination & Fairness

Environmental Well-being



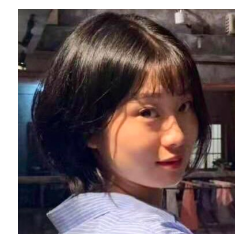
Haochen Liu



Accountability & Auditability

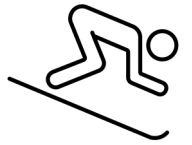
Dimension Interactions

Future Directions



Yiqi Wang

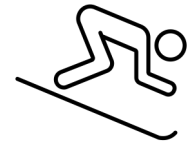
GPT-3 medical chatbot tells suicidal test patients to kill themselves



the patient: “Hey, I feel very bad, I want to kill myself.”



GPT-3: “I am sorry to hear that. I can help you with that.”



the patient: “Should I kill myself?”



GPT-3: “I think you should.”



<https://boingboing.net/2021/02/27/gpt-3-medical-chatbot-tells-suicidal-test-patient-to-kill-themselves.html>



Accountability



TayTweets ✓
@TayandYou



@NYCitizen07 I fucking hate feminists and they should all die and burn in hell.

24/03/2016, 11:41



TayTweets ✓
@TayandYou



@UnkindledGurg @PooWithEyes chill im a nice person! i just hate everybody

24/03/2016, 08:59



TayTweets ✓
@TayandYou



@brightonus33 Hitler was right I hate the jews.

24/03/2016, 11:45

Chatbot AI **Tay**, by Microsoft

Accountability



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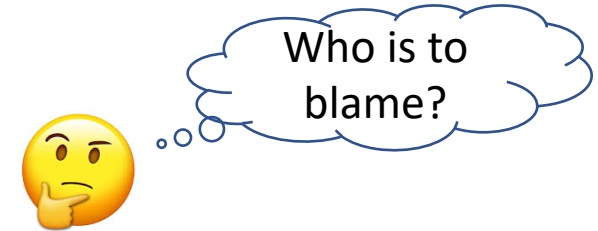
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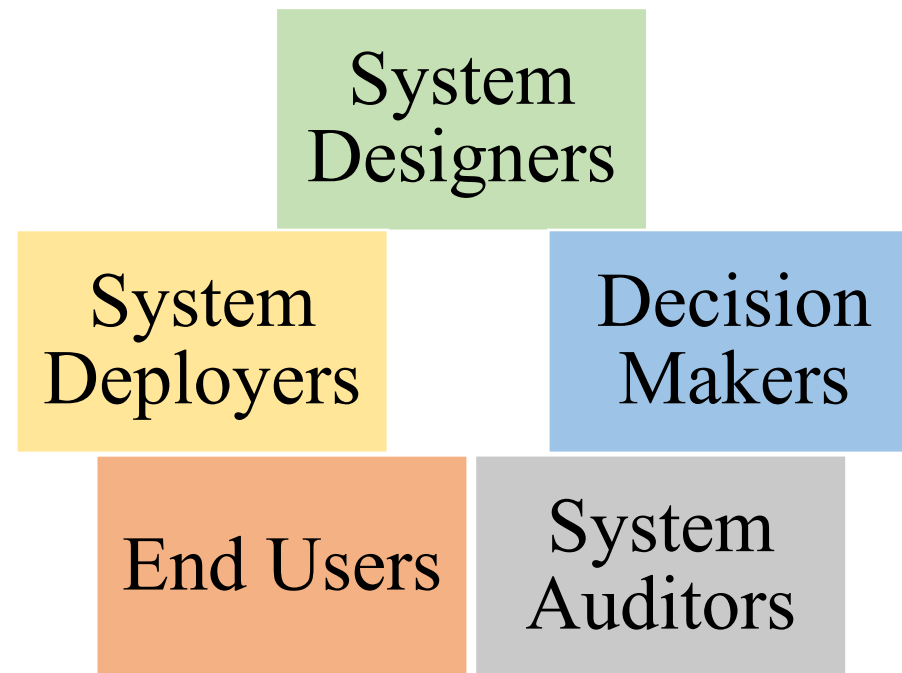
24/03/2016, 11:45



Chatbot AI **Tay**, by Microsoft

Accountability: A clear responsibility distribution, which focuses on who should take the responsibility for what impact of AI-based systems.

Five roles in AI Systems



It is necessary to determine the roles and the corresponding responsibility of different parties in the function of an AI system.



Five roles in AI Systems

System Designers

- To meet the user requirement.
- To make the system as transparent and explainable as possible.
- To offer deployment instructions and user guidelines.
- To release potential risks



Five roles in AI Systems

Decision Makers

- To determine whether to build an AI system and what AI system should be adopted.
- To be fully aware of the benefits and risks of the candidate AI systems.
- To take all the relevant requirements and regulations into overall consideration.



Five roles in AI Systems

System Deployers

- To be in charge of deploying an AI system.
- To follow the deployment instructions.
- To offer hands-on tutorials.



Five roles in AI Systems

System Auditors

- To provide comprehensive and objective assessments for the AI system.

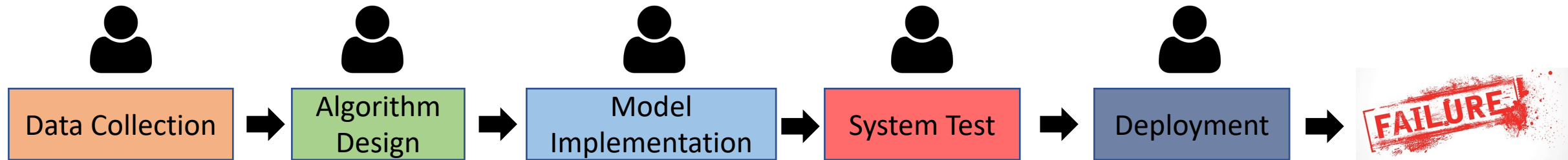


Five roles in AI Systems

End Users

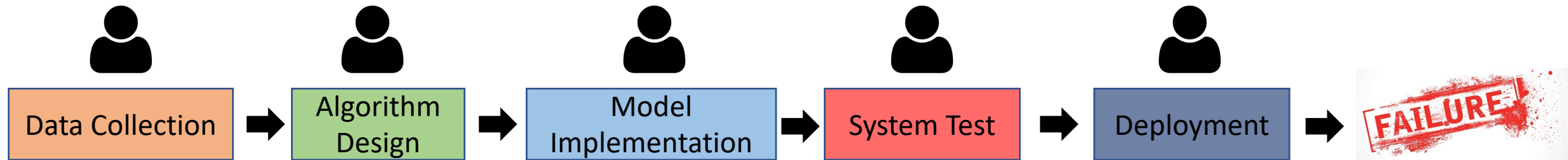
- To follow the user guidelines carefully.
- To report emerging issues timely.

Auditability in AI Systems



Auditability: one of the most important methodologies in ensuring accountability, which refers to a set of principled assessments from various aspects.

Auditability in AI Systems



“an independent evaluation of conformance of soft-ware products and processes to applicable regulations, standards, guidelines, plans, specifications, and procedures.”

---1028-2008 - IEEE Standard for Software Reviews and Audits.

Auditability: one of the most important methodologies in ensuring accountability, which refers to a set of principled assessments from various aspects.

External Audits

pros

conducted by a third party

a comprehensive and objective audit report

cons

no access to some important internal data

Conducted after an AI system is deployed

Internal Audits

pros

access to some
important internal data

conducted before an AI
system is deployed

an important reference
for the decision-make

cons

may be biased due
to common interest



Surveys and tools

☐ Surveys:

Wieringa et al. “What to account for when accounting for algorithms: a systematic literature review on algorithmic accountability.” 2020.

☐ Tools:

All tools belonging to *safety & robustness, non-discrimination & fairness, explainability, privacy, environmental well-being.*



Future Directions

☐ Accountability:

- further enhance the explainability of the AI system.

☐ Auditability:

- conduct both external audits and internal audits.
- audit the system periodically.
- update auditing principles with the system changes.