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Course Modules

Fundamental Concepts for Data-Driven Technology Ethics

1.Commn terminology /concpts imprtnt to data-drivn tchnlgy

- AI-related concepts
- Data science-related concepts
- Legal-related concepts
- Privacy-related concepts
- Ethics
- Bias
- Evaluation metrics

2.Identify and describe common ethical theories

- •Moral philosophy
- Applied ethics

3. Identify when it is appropriate to condct an ethcal risk review

- Ideation and innovation management activities
- What-if scenario planning sessions
- New product/service development
- •Data science/AI dvlpmt lifecycle, from ideation & design throgh
- •Stage gates & other points as appropriate within an organizatn
- •When legal and/or regulatory non-compliance has occurred
- When an ethical violation or incident has occurred

Ethical Frameworks

4. Common ethical principles cited by major ethical framewrks

- Privacy
- •Safety and Security
- Transparency and Explainability
- Fairness and Non-Discrimination
- Human Control of Technology
- Professional Responsibility
- Promotion of Human Values

5.Ean ethically challenging dilemma, identify & selct an ethcal

Initiatives

6. Follow applicable regulations, standards, and best practices

- Regulations
- Standards/best practices

7. Identify ethical challenges that may conflict

- •Data minimization principle vs. need for data
- Performance vs. explainability
- Compliance vs. cost
- •Transparency/explainability vs. intellectual property rights
- Company/stakeholder needs vs. ethical decision making
- Ethics washing
- Efficiency vs. the risk of collateral damage
- Proliferation of AI to unscrupulous actors vs. democratization
- · Efficiency of development vs. cultural/contextual sensitivity
- Availability of datasets for ML algorithms vs. privacy protection
- •Big data genratd through devices (cloud, IoT) vs. concentration
- Fair competition vs. corporate hegemony (data assets)
- Efficiency/streamlining experience vs. enabling human agency
- Moral relativism vs. evidence-based policy

Risk Identification and Mitigation

8. Identify and mitigate privacy risks

- Source
- Methods of identification
- Mitigation strategies
- Tools for identification/mitigation

9. Identify and mitigate accountability risks

- Source
- Methods of identification
- Mitigation strategies
- Tools for identification/mitigation

10. Identify and mitigate transparency and explainability risks

- Source
- Methods of identification
- Mitigation strategies
- Tools for identification/mitigation

11. Identify and mitigate fairness and non-discrimination

- Source
- Methods of identification
- Mitigation strategies
- Tools for identification/mitigation

12. Identify and mitigate safety and security risks

- Source
- Methods of identification
- Mitigation strategies (Security-by-Design practices)
- Tools for identification/mitigation

Communication

- Effectively communicate with key stakeholders and/or team
- •Identified ethical risks Technologies
- Business impacts
- Business incentives

13. Effective cmnct about the ethical prctics of the organztn

- Marketing/Public Relations
- •Brand awareness/value
- Media inquiries
- Corporate reporting
- Organizational philosophy
- Disclosure statements

Organizational Policy and Governance

14.Elmnts that can help foster an ethical organizatnal culture

- Training
- ·Leadership championing
- Incentive structures
- Culture-building workshops
- Creation of an ethics board
- Organizational resourcing

15.Describe the ethical considerations that shape policies

- Fair competition
- Open data
- Privacy
- Intellectual property
- Fairness
- Non-discrimination
- Legal and regulatory requirements
- Human rights
- Accountability
- Transparency
- Animal rights/welfare
- Environmental concerns
- Economic impacts & Workforce impacts

16. Follow recommended guidelines for developing a code

- Internal & external stakeholders who should review or contribt
- Determine your organization's memberships in ecosystems,
- Collect codes of ethics from the above groups and aggregate
- Consult with process owners to understand any factors
- Publish draft among stakeholders who will participate in a pilot
- During the pilot period, interview stakeholders at predetrmined
- Upon completn of the pilot, update & ratify the code of ethics

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17. Follw recommnd guidelines for devlpg an ethical organitn

- Identify the need for the policy
- •Identify the owner(s) of the policy
- Gather information about the policy
- Draft the policy
- Consult appropriate stakeholders
- Approve and publish the policy
- Establish procedures to support the policy
- •Implement the policy
- Monitor and refresh the policy at regular intervals

18. Evaluate the effectivns of internal & external ethical polics

- Sentiment analysis of public discussion
- Surveys and focus groups
- Periodic health check of ethical policies
- Number and severity of ethical violations
- Industry best practices/leading best practices







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