

Introduction to Computing

**Ethics, Law, & Societal
Impact of Computing**

- Computing has transformed society in both positive and negative ways.
- Ethical considerations, legal frameworks, and societal impacts are crucial in responsible computing.
- This presentation explores key areas of computing ethics, laws, and societal effects.



Ethics in Computing

Ethics involves moral principles guiding the responsible use of technology.

Ethical principles:

- Privacy and Data Protection
- Fairness and Non-Discrimination
- Accountability and Transparency
- Security and Safety
- Environmental and

Social Responsibility





AI Ethics and Bias

- Algorithmic Bias: AI systems can reflect and amplify human biases.
- Transparency: AI decision-making should be explainable.
- Accountability: Who is responsible for AI-driven decisions?
- Job Displacement: Ethical concerns in automation and unemployment.
- Deepfakes and Misinformation: Ethical dilemmas in media manipulation.

Cybersecurity & Ethical Hacking

- Cyber Threats: Hacking, phishing, malware, and cybercrime.
- Ethical Hacking: White-hat hackers help strengthen security.
- Privacy Issues: Data breaches, surveillance, and digital rights.
- Encryption Debate: Balancing security and law enforcement needs.



Laws Governing Computing

A silver laptop is open, and a wooden gavel with a dark handle and a light-colored head is resting on its keyboard. The background is a dark, solid color.

- GDPR: Protects user data in the EU.
- CCPA: Data rights for California residents.
- CFAA (USA): Covers hacking and unauthorized access.
- DMCA (USA): Protects intellectual property.
- Cybersecurity Laws: National and international regulations on data protection.

Intellectual Property & Open Source

- - Copyright: Protects software and creative works.
- - Patents: Innovation protection for new computing methods.
- - Open Source Movement: Benefits and challenges of free software.
- - Creative Commons Licenses: Alternative to copyright restrictions.



Social Media & Misinformation

- - Echo Chambers & Polarization: How algorithms influence opinions.
- - Fake News & Deepfakes: The spread of misinformation.
- - Data Privacy on Social Media: User tracking and targeted advertising.
- - Regulatory Efforts: Government and platform responses.

Environmental Impact of Computing

- E-Waste: The growing issue of electronic waste disposal.



- Energy Consumption: Data centers and cryptocurrency mining.
- Sustainable Computing: Green IT and energy-efficient algorithms.

Ethical Responsibility in Tech Development

- Ethical guidelines for developers and companies.
- Importance of ethical AI and software design.
- Case studies of ethical failures and lessons learned.



Ethics, law, and society are deeply intertwined in computing.

Awareness and responsible decision-making are essential.

