

AAI301 Student Study Guide

Seminar 5: Human Autonomy and Societal Impact of Generative AI

Overview

This guide is designed to help you understand and apply the core concepts covered in **AAI301 Seminar 5**. If you missed the seminar or need a refresher, this document provides the essential theoretical foundations, definitions, and practical discussions regarding how AI affects human decision-making and society at large.

Learning Objectives

By the end of this session, you should be able to:

- Understand how ethical Generative AI systems should be designed to uphold **human autonomy**.
- Critically assess the impact of Generative AI on **human agency** and decision-making.
- Appreciate the broad **societal consequences** of AI adoption on employment, culture, and democracy.

Key Concepts

1. Human Autonomy vs. Human Agency

- **Human Autonomy:** The capacity for *self-governance*. It is the freedom to make decisions based on your own values without external coercion or manipulation.
 - *AI Impact:* Recommendation algorithms can subtly manipulate our preferences, undermining our autonomy.
- **Human Agency:** The capacity to act and effect change. It is the ability to execute your choices.
 - *AI Impact:* AI tools can enhance agency (giving us new capabilities) or reduce it (if we become dependent on them).

2. Human Control: The Interaction Spectrum

We discussed three levels of human involvement in AI systems:

- **Human-in-the-Loop (HITL):** Humans are actively involved in the decision. The AI suggests, but the human decides. (e.g., A doctor reviewing an AI diagnosis).
- **Human-on-the-Loop (HOTL):** The AI acts autonomously, but a human supervises and can override it. (e.g., A pilot monitoring an autopilot system).
- **Human-out-of-the-Loop (HOOTL):** The AI acts fully autonomously with no human intervention. (e.g., High-frequency trading algorithms).

3. Psychological Effects of AI

- **Automation Bias:** The tendency to trust AI outputs uncritically, assuming the machine is always right.
- **Skill Erosion:** The loss of human expertise due to over-reliance on AI (e.g., forgetting how to navigate because of GPS).

4. Societal Impacts

- **Economic:**
 - *Job Displacement:* Automation of creative/knowledge work.
 - *Job Creation:* New roles like "Prompt Engineer" or "AI Ethicist."
- **Political:**
 - *Micro-targeting:* Using AI to craft personalized political messages to manipulate voters.
 - *Deepfakes:* Eroding trust in democratic institutions.
- **Cultural:**
 - *Homogenization:* AI models trained on dominant cultures may marginalize local traditions.
 - *Creativity:* Shifting from "creating" to "curating" or "prompting."

Practical Exercises (Catch-Up Activities)

Activity 1: AI & Political Campaigns (Scenario)

- **Scenario:** A political party uses a Gen AI tool ("WahLauEh") to generate all campaign messages without human oversight.
- **Critical Questions:**
 - *Autonomy:* Are voters making free choices if they are targeted by hyper-personalized AI persuasion?
 - *Accountability:* Who is to blame if the AI hallucinates a false claim about an opponent?
 - *Trust:* What happens to democracy if we cannot tell human speech from machine speech?

Activity 2: The Employment Dilemma

- **Scenario:** A corporation replaces its customer service and mid-level creative teams with AI to boost efficiency.
- **Discussion:**
 - Is efficiency the only metric that matters?
 - What is the ethical responsibility of a company to its displaced workforce? (Reskilling, transition support).

Preparation for Next Class (Seminar 6)

In Seminar 6, we will look at how we can control and regulate this technology to ensure a safe

future.

- **Topic:** Building an Ethical AI Future: Governance, Regulation, and Looking Ahead.
- **Preview:** We will explore:
 - **Governance:** How companies set internal rules (Self-Regulation).
 - **Regulation:** Hard laws like the **EU AI Act** or Singapore's **Model AI Governance Framework**.
 - **The Future:** The debate between AI Optimists (AI cures diseases) vs. AI Pessimists (Existential risk).

Self-Assessment Questions

1. Explain the difference between **Human-in-the-Loop (HITL)** and **Human-on-the-Loop (HOTL)**.
2. How might Generative AI lead to **cultural homogenization**?
3. What is **Automation Bias**, and why is it dangerous in high-stakes fields like healthcare?
4. In the context of the "WahLauEh" political scenario, how does AI micro-targeting threaten **Human Autonomy**?

Need Help?

If you are struggling with the distinction between Autonomy and Agency or the levels of Human Control:

- **Email:** Rudy005@suss.edu.sg
- **Office Hours:** [Weekdays / Between 12pm to 1pm]
- **Discussion Forum:** [Link to be shared later]