Transforming the Engineering Space: The Impact of Generative AI (gen AI) and Deep Learning(DL) on Team Dynamics, Work Ethics, Conflict Resolution and Business Decisions.

IIT Madras BS Degree

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Introduction

Understanding the impact of Generative AI on :

- Business Decisions
- Productivity and Efficiency
- Team Dynamics
- Conflict Management
- Ethics and Data Privacy
- Job Displacement

Methodology

Data Collection

- Industry Interviews
- Survey using Google Form
- Research Papers , books , movies and YouTube Videos

Data Analysis

- Sentiment Analysis
- Descriptive Statistics, Proportions and Visualizations (Bar Graphs and Pie Charts)
- Analysis of secondary resources and compilation of results.

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Findings and Results

- The survey reveals that while 54% of professionals find AI beneficial for efficiency and decision-making, concerns about data privacy, job displacement, and transparency persist. Additionally, educators highlight AI's negative impact on academic integrity, while 17% of respondents, mainly from transportation and hospitality, see minimal business impact.
- "The Matrix" underscores the need for ethical AI development to prevent human control and highlights the challenge of distinguishing reality from AI-generated content.
- The book "Human + Machine" highlights AI's role in enhancing business operations through AI-human collaboration, making jobs more efficient rather than eliminating them.
- Generative AI in software engineering significantly boosts efficiency, saving time, enhancing quality, and reducing manual tasks, though it may reduce the need for junior engineers.
- AI raises privacy issues, including data breaches and potential biases, necessitating transparency and adherence to regulations like GDPR to ensure responsible AI use.

Citations

Aref, E. (2024). Team Dynamics and Conflict Resolution: Integrating GeN AI in project based learning to support students'. . . ResearchGate.
Movies - The Matrix , Blade Runner

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- HARNESSING THE POWER OF GENERATIVE AI IN TRANSFORMING SOFTWARE ENGINEERING PRODUCTIVITY

Conclusions

- Productivity and Efficiency: Generative AI enhances productivity by reducing task completion time, improving code quality, and optimizing business operations.
- Team Dynamics: AI tools improve communication, collaboration, and task management within teams, fostering better team dynamics.
- Ethical and Privacy Concerns: Ethical use, data privacy, and transparency are critical issues, with a need for clear guidelines and accountability measures.
- Reskilling and Multidisciplinary Skills: Effective AI integration requires reskilling the workforce, emphasizing the importance of multidisciplinary competencies and foundational skills.
- Human-AI Collaboration: Successful AI adoption involves humans guiding and validating AI outputs, ensuring accuracy and effective use.
- Challenges in AI Adoption: Common challenges include data privacy breaches, job displacement, and the need for openness to new ways of working and continuous learning.

Further Information

- Examples of AI use in Organizations to boost productivity
- Hitachi which uses AI to analyze data and optimize worker instructions
- Goldman Sachs which uses AI to identify key share price factors
- Johnson & Johnson which uses Watson AI to expedite drug discovery.