AI/ML for Designers

Proposal for a New Course

1.Course Number: DESxxxx

2.Course Title: AI/ML for Designers

3.Credit system: 3-0-0 Total Credits: 9

4.Duration of Course: Full Semester

5.Proposing Department/IDP: DES

Other Departments/IDPs which may be interested in the proposed course: Not Applicable

6.Proposing Instructor(s): Amar Kumar Behera

Other faculty members interested in teaching the proposed course: None

7.Course Description:

(A)Objectives: In this course, students will explore the impact of artificial intelligence (AI) on design. They will learn to use AI to enhance their workflow, tackle real world challenges and use AI as a participant in the design thinking process. It will enable students to position themselves at the forefront of design innovation.

(B) Pre-requisites: None

(C) Contents:

1. Introduction to AI – Key terminologies such as Machine Learning, Deep Learning, Generative AI, etc., Impact of AI on design, Why design and AI should join forces – 4 hours

2. Role for AI in the design process – Collaborative intelligence, AI as creativity enhancement, AI in idea development, AI in research phase of design, Data mining applications, AI for concept generation (Image generation, Sketching assistant, Model generator, Facilitator, Concept evaluator) – 8 hours

3. Enhancing design workflow – AI tools for UX research, Problem solving with AI, AI for market analysis, persona interviews and data processing – 6 hours

4. Designer's role in AI-driven solutions – Addressing challenges, analyzing concerns, delivering ethical solutions for real-world design applications – 8 hours

5. Working on AI-driven design projects: 12 hours (to be conducted in computer lab settings)

Recommended books:

1. Fabio Antoni Figoli, Francesca Mattioli, Lucia Rampino, Artificial intelligence in the design process, FrancoAngeli s.r.l., Milano, Italy
2. Md Haseen Akhtar, Janakarajan Ramkumar, AI for Designers
3. Artificial Intelligence a Modern Approach, 3rd E., by Stuart Russell and Peter Norvig

8. Any other remarks: None

Proposer: A. K. Behera   DPGC Convener

Dated: 23/5/2024   Date:

The course is approved / not approved

Chairperson, SPGC

Dated: