

Design Against Biases in AI systems

Classroom x ☐
Studio or workshop ☐
External venue ☐
Online ☐

Cím

M-KF-E-301-FS-252601-18

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Codes

di69-A-2025-26-1-7

Host

MOME Future School

	Type	ECTS	Contact hours	Homework hour	Course type	Semester	Unit
Basic info	Practice	5	48		classroom	2025/2026 Fall	Heritage in Motion lab

Recommendation

Have you ever thought about cultural accuracy in AI generated images? Do you know what inclusive AI technology should look like? Do you want to investigate AI systems in order to understand how AI images are generated in the backend? Do you want to know how to design customized visual AI tools? Do you want to design new apps to enable others to use AI in a more inclusive way? Get much more aware of using AI for creative purposes!

Short description

This course explores the complex interplay of biases in text-to-image AI models, focusing on both their challenges and opportunities in design practice. Students will investigate how biases are embedded in AI systems through building their own visual database, training data, and learn strategies to critically assess and creatively leverage these biases in their work. Through hands-on projects, discussions, and case studies, participants will gain practical skills to identify, mitigate, and strategically approach biases in AI. Students will learn how to finetune an AI model, and learn about building apps addressing bias in AI. The course emphasizes a balance between critical theory and design in practise, equipping students to innovate responsibly in the evolving landscape of AI-driven creativity.

Teachers

Name	Contact	Bio	Opening hours
Brigitta Ivanyi-Bitter PhD	ivanyi-bitter.brigitta@mome.hu		
Viktor Horvath			

Semester schedule

Course scheduling	Class appointments

#	Date	Educational content
1	09.05	Text-to-image apps: operating apps behind the hood. Critical theory and practice based learning
2	09.12	The nature of generated images, culturally-aware gen AI, inclusive technology
3	09.19	Probing and evaluating generative AI
4	09.26	Understanding gen AI from datasets to prompts. What makes a dataset culturally aware?
5	10.03	Generating images to show biases in the system.
6	10.10	UX and UI in Gen AI apps, best practices. Building new UI solutions
7	10.31	Mid-semester presentation of Research Journals. Machine learning: concept and practice
8	11.07	Apply your knowledge of data, annotation and metadata, database
9	11.14	Analyzing UI/UX best practices of gen AI apps (text-to-image, text-to-video)
10	11.21.	UX design workshop, designing apps to address bias issues
11	11.28.	UX/UI design workshop: designing your new app
12	12.05	UX/UI: designing your clickable prototype for the app

13	12.12	Final presentations
14		
15		

Requirements and evaluation	Assignments	Evaluation criteria	Deadline	% in evaluation
	To complete the course you have to deliver the following: — Write your Research Journal in every class	Regular attendance, In-class assignment activities Research Journal documenting all in-class assignments in detail. Attention to detail is critical to success.	Every class	50
	— Presentation of Research Journal	Final presentation of the Research Journal and a 2 minutes narrated video. Attention to detail is critical to success.	Midsemester presentation	25
	— PPT export of the presentation — A 2 minute video (16:9) that demonstrates your concept. The minimum resolution is Full HD, format is MP4. The video should be self explanatory using narration and subtitles/labels. — clickable (low/ mid fidelity) prototype of your app	Final presentation of your app (In person and video)	Final presentation	25

Compulsory readings **Mi Zhou, Vibhanshu Abhishek, Timothy Derdenger, Jaymo Kim, Kannan Sirinivasan: Bias in Generative AI. (2024) Cornell University, [arXiv:2403.02726](https://arxiv.org/abs/2403.02726) [econ.GN]**

Z. Bayramli, A. Suleymanzade, Na Min An, H. Ahmad, E. Kim, J. Park, J. Thorne, A. Oh: Diffusion Models Through a Géobal Lens: Are they culturally Inclusive? (2025)
<https://doi.org/10.48550/arXiv.2502.08914>

Recommended readings **[Sedkaoui, S.](#) and [Benaichouba, R.](#) (2024), "Generative AI as a transformative force for innovation: a review of opportunities, applications and challenges", *European Journal of Innovation Management*, Vol. ahead-of-print <https://doi.org/10.1108/EJIM-02-2024-0129>**

Markowitz, D. M., & Hancock, J. T. (2024). Generative AI Are More Truth-Biased Than Humans: A Replication and Extension of Core Truth-Default Theory Principles. *Journal of Language and Social Psychology*, 43(2), 261-267. <https://doi.org/10.1177/0261927X231220404>

Learnings	Knowledge	Students will understand <ul style="list-style-type: none"> biases in generated images, the origin of biases in AI culturally-aware approaches to design with AI UX/UI workflows to create apps addressing biases in AI systems the nature of LLM models, machine learning, training AI models and limitations
	Skills	Students will be able to <ul style="list-style-type: none"> develop critical usage of Gen AI tools prototype for showing limitations and possibilities of Gen AI
	Attitude	Students will improve <ul style="list-style-type: none"> analytical, critical and design skills open-mindedness Entrepreneurial thinking
	Responsibility	Students will develop competence/confidence in working with AI tools and training models based on ethical and sustainable AI solutions.

Exemption	<input checked="" type="checkbox"/> Exemption from attending and completing the course cannot be granted,
	<input type="checkbox"/> Exemption may be granted from the acquisition of certain competencies and the fulfilment of tasks
	<input type="checkbox"/> Some tasks can be replaced by other activities,
	<input type="checkbox"/> A full exemption can be granted

Curriculum link	Subject	Related courses (paralells)	Merit rate in the subject
	Title of the course to be covered	[This course]	
		Another course	
		Third course	
Course prerequisites		Prerequisites in case of elective	Is it available as an elective?

TechPark	Resources	
	Requests	Personal (expert consultation)
		Tools
		Materials

	Space	
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Misc.
information

Technology for in-class assignments: bring your laptop, prepaid plans for AI tools are accessible (Midjourney, Ideogram, ChatGPT 4.o, Flux),

Max 24 students,

Priority: Interaction Design MA, Photography MA, Media design MA, Animation MA, Design- és Vizuálművészet-tanár MA, Designelmélet MA, Tervezőgrafika MA, Építőművész MA, Doctoral School, Erasmus.

