

EECS 4414/5414: Guidelines on the Use of Generative AI

Generative AI tools (e.g., ChatGPT, Copilot, Gemini, Claude) may be used in EECS 4414 to support learning, programming, experimentation, and project development. The goal is to develop the ability to use AI effectively **without replacing independent understanding, reasoning, and scientific judgment**.

Guiding Principle

AI may accelerate your work, but it may not replace your understanding.

You are responsible for everything you submit, including its correctness, originality, mathematical reasoning, code, experimental design, references, interpretation, and conclusions. You should be able to explain and defend any submitted work without assistance from AI.

Appropriate Uses of AI

AI may be used to:

- clarify concepts and provide alternative explanations;
- generate additional examples, practice questions, or small illustrative networks;
- brainstorm project ideas, research questions, hypotheses, and experimental directions;
- assist with programming, debugging, testing, and code documentation;
- suggest visualization or data-analysis approaches;
- help identify possible methods, baselines, metrics, or datasets;
- critique an experimental design or suggest possible weaknesses;
- improve the clarity, organization, grammar, or presentation of written work.

Students are encouraged to treat AI as a **tutor, collaborator, and critical sounding board**, rather than simply as an answer generator.

Student Responsibilities

Whenever AI is used, students must critically evaluate its output. In particular:

- **Verify factual and technical claims.** AI responses may be incorrect or misleading.
- **Verify all references.** Do not cite papers, datasets, results, or sources without confirming that they exist and support the stated claim.
- **Understand AI-generated code.** You must be able to explain its logic, assumptions, complexity, and limitations.
- **Validate results computationally or mathematically.** A plausible AI explanation is not evidence.
- **Make your own methodological decisions.** AI may suggest approaches, but you are responsible for choosing and justifying them.
- **Interpret results independently.** Conclusions must be supported by the actual evidence produced in your work.

A useful workflow is:

Understand → Ask → Verify → Experiment → Interpret → Explain

Assignments and Projects

Unless otherwise stated for a particular assessment, AI assistance is permitted for assignments and projects. However, submitted work must reflect the student's or team's own understanding and intellectual contribution.

For substantial project work, students should briefly disclose meaningful AI use, for example:

“Generative AI was used to assist with debugging, brainstorming experimental baselines, and improving writing clarity. All generated code, references, analyses, and conclusions were independently verified by the authors.”

There is no need to document every minor prompt. The purpose of disclosure is transparency about **substantive AI assistance**.

Project Ownership and Oral Evaluation

Each team member is expected to understand the complete project and, in particular, the components for which they were responsible. During project presentations or discussions, students may be asked to explain:

- algorithms or mathematical formulations;
- implementation choices;
- baselines and evaluation metrics;
- experimental results;
- limitations and unexpected findings;
- code or figures included in the submission.

Being unable to explain submitted work may indicate insufficient individual contribution or understanding, regardless of whether AI was used.

Assessments Where AI Is Not Permitted

AI tools are **not permitted during examinations, quizzes, or other assessments explicitly designated as individual closed-resource evaluations**.

These assessments measure what you personally understand, while assignments and projects provide opportunities to demonstrate what you can accomplish responsibly using modern computational and AI tools.

A Purpose-specific AI Policy

Activity	AI use
Understanding lecture concepts	Encouraged
Asking for explanations/examples	Encouraged
Practice problems	Encouraged, preferably Socratic
Coding/debugging	Allowed
Generating plots/visualizations	Allowed
Brainstorming project ideas	Encouraged

Literature discovery	Allowed, but citations must be independently verified
Experimental design	AI can advise; students decide and justify
Mathematical derivations	AI can assist; students must reproduce/defend them
Interpretation of results	AI can challenge; student interpretation must be their own
Writing/editing	Allowed with disclosure
Final exam	No AI
Project oral defence	No AI

Bottom Line

Use AI to extend your capabilities, not to outsource your thinking.

The strongest work will demonstrate not only effective use of AI, but also the ability to question it, verify it, improve upon it, and make independent technical and scientific judgments.