

Introduction

You are receiving this survey as our initial investigation identified you as either a contributor to a deep learning system or as a professional software developer. This survey should take approximately seven minutes to complete.

With this survey, we want to know your opinion regarding practices pertaining to the code smells in deep learning systems.

Your participation is voluntary and confidential. You can withdraw at any time. We do not record any identifying information.

The results of this survey will be used in a scientific publication.

By clicking the button below, you acknowledge that your participation in the study is voluntary, you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason.

Please note that this survey will be best displayed on a laptop or desktop computer. Some features may be less compatible for use on a mobile device.

- ☐ I consent, begin the study
- ☐ Maybe later

Demography Questions

Who do you currently work for?

- ☐ Company or Organization
- ☐ University (including student)
- ☐ Independent/Freelancer/Consultant
- ☐ Other

What best describes your primary work area?

- ☐ Data engineer/scientist. Example job titles: Applied Scientist, Data Scientist, Data Scientist Lead, Applied Science Manager, Data engineer etc.
- ☐ Program Management. Example job titles: Program Manager, Program Manager Lead, etc.
- ☐ ML Engineer. Example job titles: ML Engineer, ML Researcher, ML scientists, etc.
- ☐ Software Engineering. Example job titles: Software Engineer, Software Development Engineer, Software Engineering Manager, etc.
- ☐ Other ____ Please enter an 'other' value for this selection.

In what location do you work?

- ☐ North America: USA
- ☐ North America: Canada, Mexico
- ☐ Central America and South America
- ☐ Europe
- ☐ Asia: China
- ☐ Asia: India
- ☐ Asia: Middle East
- ☐ Asia: Japan
- ☐ Asia: South Korea
- ☐ Asia: Other
- ☐ Australia, New Zealand, Oceania
- ☐ Africa
- ☐ Other ____ Please enter an 'other' value for this selection.

How many people do you work with on a regular basis on deep learning projects (approximately)?

- ☐ No one (I don't need to coordinate my work)
- ☐ 1-2 people
- ☐ 3-5 people
- ☐ 6-14 people
- ☐ 15-29 people
- ☐ 30 or more people

How many years of work experience do you have?

This question requires a valid number format.

Validate Code Smells

Below are some code smells that we identified in deep learning systems. Have you ever seen similar situations before? If yes, please select to what extent the situation impacted the maintainability of your system. If no, please continue to the next code smell.

	Seen Before?			If yes, to what extent does it impact your project maintenance?				
	Yes	No	I don't understand	Very Serious	Serious	Neutral	Scarcely	Not at all
1. Have you ever worked on a deep learning project that did not properly separate machine learning model training, testing, and data processing code into proper files?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Have you ever worked on a deep learning project that developers failed to divide the different functional parts of the deep learning model clearly. Instead, the deep learning models were jumbled together, which made the model-related code difficult to understand?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Have you ever worked on a deep learning project that installed dispensable libraries or dependencies, which made the project difficult to maintain?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Have you ever worked on a deep learning project that failed to remove unwanted debugging code?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	Seen Before?			If yes, to what extent does it impact your project maintenance?				
	Yes	No	I don't understand	Very Serious	Serious	Neutral	Scarcely	Not at all
5. Have you ever worked on a deep learning project that machine learning libraries/frameworks that were scattered used. When updates/changes made in these libraries/frameworks, the scattered use of machine learning libraries raised problems and forced developers to make changes in multiple places?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Verify old code smells

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