

# Master Thesis: Interview for Software Development Department

Dear Interviewee,

Firstly, I would like to express my utmost gratitude for taking time to participate in this interview, which is an important step of my master's thesis.

The aim of this interview is to gain a comprehensive understanding of your department needs, challenges and potential areas where AI can be used to bring positive impact. Your unbiased and honest insights are important and will contribute notably to this research success.

To guarantee that the data gathered is as impartial and insightful as possible, I respectfully ask for the following:

**Be Specific:** Please provide specific examples or scenarios where you believe AI could be beneficial.

**Current Pain Points:** Please describe any current challenges, inefficiencies, or struggles you are facing or process within your workflow that might be done using AI tool. This will assist us in pinpointing areas where AI solutions could bring improvements.

**Concerns and Limitations:** We welcome identification of challenges and obstacles as it is essential for effective incorporation of AI in your workflow.

**Honesty is Key:** Honesty is crucial in this situation. Your honest insights within your workflow will aid us in selecting the most effective AI solution for your specific needs.

I assure you that this data collected through interview will be treated with confidentiality. Your insight will play an important part in pinpointing potential areas where AI can be used to bring positive impact.

Once again, Thank you very much for your participation. Your knowledge and expertise within your field are invaluable for this research topic.

If you have any queries or require further/any clarification, please do not hesitate to reach out.

Warm regards,

Shuvam Singh

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, What \*  
potential impact do you see for AI in your field of work.

1 2 3 4 5

Not Likely ☐ ☐ ☐ ☒ ☐ Extremely Likely

What is the issue/problem that you want to solve using AI? \*

Testing after implementing or bug fixing. AI should give response that other functions for example are broken after changing something in code so you can't deploy before fixing it.

How well do you understand the problem/issue? And what do you mean you want to use AI \*  
for that issue/problem?

Not sure

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how \*  
comfortable are you with integrating AI technologies into the software development  
department?

1 2 3 4 5

Not Likely ☐ ☐ ☒ ☐ ☐ Extremely Likely

Elaborating in above Likert scale question, What challenges and obstacles do you see in \*  
integrating AI tools to enhance your performance in development department?

AI should know the current code well and i think that this is currently not possible.

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how effective are AI driven software automated testing tools? \*

1 2 3 4 5

Not Likely ☐ ☒ ☐ ☐ ☐ Extremely Likely

Elaborating in above Likert scale question, Would it be possible to utilize AI to anticipate and prevent potential software vulnerabilities and security threats? How? \*

I think it would be possible if the AI knows the code well.

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how effective do you think AI tools are to improve work optimization and task delivery speed? \*

1 2 3 4 5

Not Likely ☐ ☐ ☐ ☒ ☐ Extremely Likely

Expanding in above Likert scale question, Could AI streamline repetitive and time-consuming tasks, enhancing overall speed and efficiency? What kind of tasks does AI is most useful for in your workflow? \*

Giving error messages while implementing. Knowing the code well so you can't miss something for example while refactoring code.

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how effective do you think integrating AI technologies into the software development department would be? \*

	1	2	3	4	5	
Not Likely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Extremely Likely

Expanding in above Likert scale question, How effective do you think AI tool would be for your current workflow, and what support or resources would you need to facilitate the adoption and use? \*

Auto Refactoring or auto updating Independencies, or auto help while doing those steps manually. Auto testing or warning you while implementation.

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What is the issue/problem that you want to solve using AI? \*

Explain/Describe Code; Quickly write or refactor simple code snippets; Find alternative solutions in ways  
I haven't considered

How well do you understand the problem/issue? And what do you mean you want to use AI \*  
for that issue/problem?

AI tools like copilot are very helpful in helping me understand unfamiliar code, not only for writing but  
also just comprehending

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how \*  
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1 2 3 4 5

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Elaborating in above Likert scale question, What challenges and obstacles do you see in integrating AI tools to enhance your performance in development department? \*

People might get too reliant on AI and may be too lazy to properly check if any generated code could be faulty

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how effective are AI driven software automated testing tools? \*

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Elaborating in above Likert scale question, Would it be possible to utilize AI to anticipate and prevent potential software vulnerabilities and security threats? How? \*

Probably. Those tools are trained on more data than we as a human can possibly consider ourselves. They may not be able to predict future issues, but security concerns of the past should be covered well

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Expanding in above Likert scale question, Could AI streamline repetitive and time-consuming tasks, enhancing overall speed and efficiency? What kind of tasks does AI is most useful for in your workflow? \*

100%. Copilot is great for simple and repetitive tasks that dont require a deep understanding of business logic. And its also super helpful in explaining existing code at least on a technical level

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Expanding in above Likert scale question, How effective do you think AI tool would be for your current workflow, and what support or resources would you need to facilitate the adoption and use? \*

Copilot, Chatgpt. At the moment those cover what we need. As for other resources related to that: I guess users need to know how to prompt for the results they desire

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What is the issue/problem that you want to solve using AI? \*

Generation of unit tests, Generation of testing notes, automated generation of change logs, enhanced ticket descriptions, enhanced user stories, enhanced source code, automated source code reviews, implementation suggestions.

How well do you understand the problem/issue? And what do you mean you want to use AI \*  
for that issue/problem?

I don't understand the question.

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how \*  
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Elaborating in above Likert scale question, What challenges and obstacles do you see in \*  
integrating AI tools to enhance your performance in development department?

Acceptance of team members, bad code basis, high technical debts.

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how effective are AI driven software automated testing tools? \*

Not Likely      1      2      3      4      5      Extremely Likely

☐   ☐   ☐   ☐   ☒

Elaborating in above Likert scale question, Would it be possible to utilize AI to anticipate and prevent potential software vulnerabilities and security threats? How? \*

Yes. By AI based automated pentests.

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how effective do you think AI tools are to improve work optimization and task delivery speed? \*

Not Likely      1      2      3      4      5      Extremely Likely

☐   ☐   ☐   ☐   ☒

Expanding in above Likert scale question, Could AI streamline repetitive and time-consuming tasks, enhancing overall speed and efficiency? What kind of tasks does AI is most useful for in your workflow? \*

Yes. See above. Testing notes, test cases, change log entries, ticket descriptions...

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how effective do you think integrating AI technologies into the software development department would be? \*

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Not Likely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Extremely Likely

Expanding in above Likert scale question, How effective do you think AI tool would be for your current workflow, and what support or resources would you need to facilitate the adoption and use? \*

Very.

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Not Likely ☐ ☐ ☐ ☒ ☐ Extremely Likely

What is the issue/problem that you want to solve using AI? \*

Become faster at writing boilerplate code and other common general purpose code.

How well do you understand the problem/issue? And what do you mean you want to use AI \*  
for that issue/problem?

I expect AI to be faster at generating the code that I want, instead of basically copying code and replacing certain parts, like class definitions. I would either copy code from different parts of the software or from stackoverflow and would adapt it to the new usage.

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how \*  
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1 2 3 4 5  
Not Likely ☐ ☐ ☐ ☐ ☒ Extremely Likely

Elaborating in above Likert scale question, What challenges and obstacles do you see in integrating AI tools to enhance your performance in development department? \*

- Not having the AI integration for certain IDEs
- Increasing cost factor
- Privacy issue when exposing a third-party tool to proprietary code

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Elaborating in above Likert scale question, Would it be possible to utilize AI to anticipate and prevent potential software vulnerabilities and security threats? How? \*

I can imagine that AI generated code could add certain improved code segments that otherwise might be forgotten. On the other hand not verifying and fixing AI generated code also often introduces bugs and potential security issues.

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Expanding in above Likert scale question, Could AI streamline repetitive and time-consuming tasks, enhancing overall speed and efficiency? What kind of tasks does AI is most useful for in your workflow? \*

AI is really good at generating boilerplate code even when still including bugs, it's faster to verify and fix the AI code than to write the code manually.

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how effective do you think integrating AI technologies into the software development department would be? \*

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Expanding in above Likert scale question, How effective do you think AI tool would be for your current workflow, and what support or resources would you need to facilitate the adoption and use? \*

A lot of IDEs have plugins that make it easy to include certain AI tools, making it easy to integrate the AI.

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1 2 3 4 5

Not Likely ☐ ☐ ☐ ☒ ☐ Extremely Likely

What is the issue/problem that you want to solve using AI? \*

Automated Testing, Code documentation, and generation of general purpose code

How well do you understand the problem/issue? And what do you mean you want to use AI \*  
for that issue/problem?

When I say that I want to use AI, I mean that I want it to assist me in my daily day-to-day work.

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how \*  
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Elaborating in above Likert scale question, What challenges and obstacles do you see in \*  
integrating AI tools to enhance your performance in development department?

The problem of finding the appropriate tool to solve the specific issue can be a major one. Also there might be different tool for different issue which would be overkill of resources if decided to implement all tools. Also limited resources can be a issue.

On a scale of 1 to 5, where 1 indicates not likely at all and 5 indicates extremely likely, how effective are AI driven software automated testing tools? \*

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Not Likely ☐ ☐ ☐ ☒ ☐ Extremely Likely

Elaborating in above Likert scale question, Would it be possible to utilize AI to anticipate and prevent potential software vulnerabilities and security threats? How? \*

If AI has the complete access to the code base and also if you are able to prompt as detailed as possible regarding the feature you want to test

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Day to day coding, querying small specific question, testing and small time consuming tasks like test case generation, change log etc

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focusing on human first AI adaptation i.e., AI tool is to assist human power not replace them. Identifying users that would be most suitable to utilize the tools and providing appropriate training

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