

# Ep. 104 Where can AI Assist Federal Software Development

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Hey, this is John Gilroy here. Everyone's asking you about artificial intelligence. Is it a coders dream, or coders nightmare? Um, Stevens has all the answers. Welcome to the federal tech podcast. My name is John Gilroy, and I will be your moderator. Our guest today is Bob Stevens, Vice President public sector at GitLab. I did that introduction, because Bob Seaton does have all the answers, especially when it comes to artificial intelligence and software development. And that's the focus of the discussion today, we're gonna talk about a report that's come out from GitLab. It's called the state of AI and software development. So Bob, this is quite a report you folks have, isn't it?

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It is Yes, fantastic. We had a we had a lot of participants, very diverse set of participants. And, and got a lot of great feedback.

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What I like about it is that, you know, everyone's thinks about Chechi, PT, and someone writing your homework or No, no, no, no, no, that's fine. That's, that's baby stuff. You know, this is the real stuff that can save companies money, it can help agencies achieve their goals. And I think it goes through it very, very methodically, it surveyed like 1000 people or something, didn't it?

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As well as a little over 1000? People? Yes, you are correct.

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So I just want to do this right at the top of the show, if you're interested in software development, software, event lifecycle and how AI can help you, you can go to [gitlab.com/developer-survey/again](https://gitlab.com/developer-survey/again). And download it and I did this morning, and I carry it around with me. I mean, all kinds of stuff. So let's jump right in here. Artificial intelligence has been around for a while, Bob, it's not brand new, you go to Google Trends and see a long trend for artificial intelligence. So why the last 18 months, two years? Why is everyone jumping on AI for software?

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Yeah, that's a good question. I think that, you know, there's, there's been a couple of advances in the market, you know, some companies that have really progressed, and, you know, GitLab, being one of them, and, and we're offering them, you know, developers the opportunity to use the technology to really make their, as you said earlier, you know, their lives a bit easier. And, and to ensure help ensure that while their lives are easier, things are more secure, as well. And so, you know, anytime you can save a developer time, I think, you know, it's something that they're going to, they're going to focus on and try and accomplish



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all kinds of statistics in this report, I'm gonna throw a few out, you can reflect on it, maybe expand on a little bit 67% of software developers are planning to use AI and software development seems like a low number Ha, 67%. Good number, you think?

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I think it's a good number. Yeah, it's not that surprising. If we look at, you know, the federal space, they're going to be a little more hesitant to use AI right now, I think that there's a lot of questions or unanswered questions that they have, like, as an example, the large language model, you know, where does that exist? Is it in the cloud? And are government agencies going to be okay, like, you know, moving their data into that into that model? Or are they going to look to try and move the model to, you know, on prem? And if it's on prem, whose model are they using? Are they using the companies? Are they using their own or a combination of both? And, you know, what's the biggest bang for the buck? And honestly, right now, I think that, you know, because there's been a huge focus on just, you know, code development. So, you know, allowing a developer to use the tool to help write code, that I don't know that that's really efficient enough for the government to, you know, so that it's cost effective, right? I think that there has to be, there has to be a lot more to it, for government agencies to really embrace and use it on a large scale.

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When I was young man, they're called coders and I got a little bit older, they paint software developers. And if you read the survey, what it says is that 75% of what they call software developers focus on tasks other than writing code. Wait a minute, I thought their code? Well, no, there's a whole lot more going on than just writing code, isn't there?

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There is yes. I mean, there's, you know, just if you look at the software development lifecycle, I mean, there's, there's 10 phases to it. And so the writing code is just is one one part of it. And that's that's what I was alluding to, when I said, you know, is it going to be cost effective for, you know, federal agencies to just take advantage of code development? I think that, you know, they've got to look at other aspects of AI as an example. We know in the government, there's legacy code that's been around for decades. And it's like, not likely to go anywhere anytime soon. When you get a new a new developer and who's not familiar with the language that it was written in, you can potentially use AI to help that developer understand what a certain part of the code is trying to accomplish. So that they don't have to spend hours or days or maybe even weeks trying to determine it themselves, because it's written in a language that they you know, they're not used to. So that's, that's, you know, like, that's one example of, you know, I think, where the government agencies will want to go so that they can get the return on investment.

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If you read this report, it looks like there's different categorizations for AI, what when they use it when they don't use it? Thanks. The report said that. Groups of developers use AI to check code, they use AI to review code, but they use bots for testing. So it's a bot come under the general heading of artificial intelligence without a different category.



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You know, I think it's a different category. And it says that you just brought up another opportunity for AI to be used in the testing of code that's been written. So I mean, there's a lot, you know, testing for you. And I, it sounds easy. But there's a lot to it. And so if you can use artificial intelligence to determine what tests need to occur, and give, like, who the reviewers need to be, you know, and things like that, then you could potentially speed up, you know, the whole testing process as well, through the use of AI.

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You know, someone who worked in Chicago and worked in advertising. And what she would do is they would come up with little models of products. And that was, that's a whole business model of product. And they tried to figure out where it fit and shelf and everything else. And so I think one application for AI in the federal government is proof of concept, say, Well, what about this? What about that? I think artificial intelligence might allow a developer to come up with something that they can say, well, well, your idea Bible, here's what it looked like. And all of a sudden, it gives you options or possibilities, doesn't it? It does. Yeah.

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I mean, you said this early on, you know, the government's been using AI for various things for a long time, just as an example, you know, the, the Red Defense Research and Engineering network. You know, they they do simulations, and, you know, and there's a lot of collaboration between the universities. And so, you know, AI is existed there for a long time, you know, another agency, US Patent and Trade Office, you know, they've got, you know, 10s of 1000s of lawyers, and they've got to, you know, analyze a lot of cases, and try and figure out, you know, are patents, you know, overlapping. And so I know that they've been using AI for a long time to try and weed through that without having to do it manually. So there's a bunch of different uses. In the government. code development is kind of, you know, it's, it's, it's the next great thing for, for, for the use of AI.

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And just some basic, like version control. If you look at the last four years, we had everyone in the office, then it moves his home, and then obviously, back in the office, but I would think that artificial intelligence can be applied just to the whole world of version control, because hybrid cloud, public cloud, private cloud fit, you know, computing at the edge, it's got to be so complicated. Now, there's got to be one, one source of truth, or one source of just this revision level.

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Yeah, no, you're right. I mean, you're bringing up another example of, you know, a process or a piece of the so the software development lifecycle, you know, software versioning, is very important. And so, you know, it's another opportunity for the use of AI across all, you know, all 10 phases of the lifecycle, and not just focus on one. As I said earlier, you know, right now, the focus seems to be just mostly on code development, but I think it's got to grow, you know, well beyond that. Here's another another example for you is vulnerability. So, you know, there's you find out that you use AI to find a vulnerability in the in the code, and AI can explain to you what that vulnerability really is the risk profile for that vulnerability, and how to potentially fix it. So, you know, it's another great use case for, for, you know, the software development lifecycle in the use of AI.



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I've done a lot of podcasts, and I listened to a lot of podcasts. And a lot of times when I speak to software developers, and they'll just toss out these terms, CI CD, bla bla bla, then it goes to a podcast about software development. Let's throw in more terms, see ICD APM. See ICD. Let's see ICD that says, I thought see ICD was maybe a federal agency or something, but it's a term that software developers use all the time. And I think this is a great target for artificial intelligence to help in continuous integration and continuous deployment because, you know, talk about vulnerabilities as new vulnerabilities found every day attacks every day. And automation is difficult all of a sudden We have a tool that allows us to automate, I would think.

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Yes, yeah, I mean, you're spot on, if you think about it, you know, GitLab was, you know, gave customers or government agencies the ability to go from months or, or, or even a year in their software development processes to, you know, as little as minutes. So, you know, AI could potentially even take it down to seconds. Because, you know, it's, it'll just provide a tool that allows that developer do much more efficient, and to, and to really increase what we call the speed of mission.

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Our focus today is on a Git lab report, 2023 global dev SEC ops report is called the state of AI and software development. And I will put the link in the show notes page, if you read this report, on page 15. They talk about the stumbling blocks to using AI security, privacy and IP, and he touched on IP earlier. And so are these the main ones? And what are the concerns that people have, especially in the federal government?

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You know, what security folks are concerned? You better believe it. And I think, I think their concern is generally around the fact that they believe that it's going to cause a lot more work for them. While in theory, AI is supposed to be reducing the workload. And I know that there's, you know, concern about, you know, AI generating code that they've never seen before. And you know, did that code represent or introduce some sort of vulnerability, or zero day, so probably worst case scenario. And so the security folks, I think you're really going to, it's going to take a little bit more time to get security on board. I think we'll, we'll get there, you know, over time, but they definitely have a concern right now.

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In the early days of word processors, many years ago, there are all kinds of word processors, and over the years, it kind of funneled into something called Microsoft Word. And today, we see all kinds of tools involved in artificial intelligence. And according to your survey here, 57% of respondents use six or more tools. Now, I would think that just, you know, figuring out what kind of tools to use this would be a difficult challenge in and of itself.

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Well, yeah, it is. And six is a low number, I can tell you. I was I was talking to a customer recently, and I asked them to list the number of security products that they use security scanners that they use, and when they got to 15. I said, Okay, we can stop.



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No mas, no mas.

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Really? Yeah, it's so it's, I mean, it's really, you know, the evolution of DEV SEC Ops is, you know, towards a platform, right, and they, you know, a platform that allows you to integrate, you know, you know, some some number of tools that you believe you need to accomplish, what your your tasks, you know, security being one of them. And, you know, it also, you know, the platform allows for it, you know, visibility across the entire, you know, this is one of the things I think is really beneficial to the government, right, they lose visibility a lot, because they outsource a lot. So using a platform that everyone understands, and has access to, really helps provide them with the visibility required to ensure that, you know, the work is, is moving at the pace that they need it to, and accomplishing the mission at the end of the day.

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And I think that's the message for the interview today is that, you know, Git lab is not just a code repository, it is a tool to help you accomplish your agency goals in an efficient manner. And manage code, whether it's with artificial intelligence are not but pretty sure it's going to be pretty soon, mostly managed with artificial intelligence.

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Well, I think the government still has some quest. Sorry, they still have some, like I said earlier, they still have some unanswered questions, right, in regard to, you know, how to take or make appropriate use of the model. I know, there'll be some fast starters out there. Ages, there's a few agencies that already, you know, always are like the Department of Energy, or NASA or other organizations like that. But, you know, DOD has got a lot more to consider. You know, it's the cost of, you know, potentially doing something on prem or in their hybrid cloud, you know, the risk of Sodhi associated with sending data to, you know, you know, a language model that's outside of their infrastructure, and you know, who has access to all that data? So there's, I think there's still a lot of unanswered questions that the government has, and I think they're rightfully taking, taking a little bit more time. In regard to AI and the use of AI.

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I was just looking at the stumbling blocks I was thinking about yesterday, my wife and I got together some friends and Have one of our friends is a woman who has a PhD in math. And she's working for a company in town here. And this is like a woman with a huge big brain. And most of her time is spent with interacting with people and try to get information from people just to allow her to use the brain. I'm thinking that with artificial intelligence, the stumbling block may be just in setting up the blocks in order to use the power there it says, It's comes down to say humans, and I just I never thought that would be the case. But I think if I understand how humans work, maybe that's one of the stumbling blocks to is just getting people trained, understanding the skills involved, and deploying those skills to use all this power we have. Now there's a there's a federal guy heard he said, artificial intelligence is like having the best bike in town and not being able to ride it.

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Yep, yeah, no, yeah, you're right. And I think in the survey, we I think there's a number there's at play 81% said that they need more training when it comes to to AI before they be comfortable using it. So that's a pretty

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significant winner chicken dinner, that's the exact number from the survey. 81% need more training? So you can be a you can be a high school kid or PhD in math, guess what? Need more training?

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Yeah, that's it. The last thing that anyone wants or needs is to not use it appropriately. That's just going to that, of course, that's where we've talked about the security folks. Right? That would be their worst nightmare. So.

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So where do you see it all headed? I mean, is it okay nightmarish scenario, everyone loses their job, because No, I don't. So what do you see what happened? You think that someone's going to come up with training for these people? Is it going to be? Is it going to stall? So what do you see the next four or five years for this, Bob?

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Oh, no, I don't think it's going to stall. I think the momentum will continue to increase. There's no doubt about that. I think we can count on the government to put together some regulation to help help guide for sure. You know, I know that, you know, DHS has a strong focus on it. I know the White House has a strong focus on it. And it's not to control it. I don't think that that's what they want to do at all, I think that they want to figure out how to properly use it, in order to take advantage of all the benefits that AI has to offer.

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I think it's like the bicycle analogy. They know they have the bicycle here. But they have to figure out exactly how to use this just, there's just the pace of change in the last 18 months. It's just it's almost out of control, where everyone seems to have an answer. In fact, there was an article in the Washington Post this morning about all the so called AI experts up on Capitol Hill opining about where AI fits in the federal government. But they got people like you doing the nuts and bolts work in the trenches, helping people you know, get the code on time and maintain the code. And that's something no one ever talks about. Yeah, I can create this and create Oh, what about maintaining the code? That's, that's part of the CD, isn't it? That's maintaining it.

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That's right. That's right. Yeah, you always have to be careful of vendor hype right? In there, you know, there may be a little bit of that going on right now. And then that's why you know, GitLab is being very thoughtful in the way that we're implementing. And the solution that we're trying to provide, again, it's not just one aspect of the software development lifecycle, it's all phases of it, because that's where the developer is really going to save some time. You mentioned it earlier, 75% of their time is spent on something other than coding, right? That means it's the other nine phases. And so that's, that's a large part of our focus is to ensure that they can recoup a bunch of time in all aspects of, of the software development lifecycle.

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So Bob, before the interview began, I asked what kind of events you're gonna attend in? 2024. So someone's listening to this, and there's snow on the ground, and then maybe the event coming up? What kind of events does your company attend here in town for my for my guppies for my federal listeners? Sure. Yeah. So

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we go to the A and AWS event every year, it's a it's a fantastic event downtown. I think you mentioned there's there was over, you reminded me there's over 10,000 attendees at the last one, it's a fantastic and, you know, DISA puts on a really nice event every year. And and so we'll participate in that. And then there's a there's a Gartner conference in June, typically in June, that we also attend, because that that brings in a variety of different customers, versus you know, focusing on just one one area vertical.

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You know, I think, you know, when I deal with companies, and they have a strong commercial presence, they go, no, no, no, my gummies love that. They love to hear that. They love to hear about Morgan Stanley, let's hear about Morgan Stanley paying a \$23 million fine for some errors in data storage. Hey, love hearing that because I guess expected to be perfect or something. You know, I worked for the DOD. Therefore, I was born with perfect genes. Humans out in banks, big banks make mistakes. And I think he could learn from that and I love the interaction of commercial folks and Garvey's and going back and forth and trying to understand how to do this. So if you are interested in this report, you can go and type I just typed in the state of AI in software development. It takes it to the GitLab page. Just have to wind up this interview here. Unfortunately, you have been listening to the federal tech podcast with John Gilroy like to thank my guest Bob Stevens, VP public sector at GitLab.

