

# Accelerating your AI in healthcare initiative with blueprints

Podcast transcript

David S. : Welcome to the Microsoft Industry Experiences Team Podcast. I'm your host David Starr, and in this series, you will hear from leaders across various industries discussing the impact of digital disruption and innovation, sharing how they've used Azure to transform their business. You can find our team online at [aka.ms/indxp](https://aka.ms/indxp) or on Twitter at [industryxp](https://twitter.com/industryxp).

Okay. I want to welcome to the show Gururaj Pandurangi and he has been CEO and founder of Avyan Consulting and Cloud [Needy 00:00:44] two companies focused on cloud solutions. Gururaj guides clients toward business focused and holistic approaches to cloud adoption. The team he currently leads specializes in digital transformation through cloud scale application design, Dev ops and CICD, analytics, cyber security and compliance, and internet of things.

We also have David Holding on this show who is the worldwide healthcare industry leader on the Microsoft Azure industry experiences team led by Paul Maier. David has more than 24 years of experience in healthcare spanning payer, provider, pharmaceutical, and life science segments worldwide. He has deep experience in privacy, cybersecurity, compliance, artificial intelligence, cloud computing, and blockchain.

With you two gentlemen on the call today, we're definitely gonna learn something about AI in healthcare. A big welcome to David and Gururaj.

David H.: Thanks David. Great to be here.

Gururaj: Thanks David, excited to be here.

David S. : We've got a lot to cover here including how AI is impacting healthcare delivery, the advantages of AI and machine learning in a clinical environment, and the Microsoft health care blueprint for getting started with AI in a healthcare environment. And finally we'll talk a little bit about how partners can help if you don't want to dive right in yourself. We'll start broadly with David Holding and ask generally about AI in healthcare. What opportunities do you see there?

David H.: Yeah, so we're 100% focused on healthcare and it spans different segments the provider, payer, pharmaceuticals, life sciences, even business associates, data processors, and worldwide. And we're really laser focused on the business goals of healthcare, right? So reducing the cost of care, improving the quality of care and patient outcomes, improving the experience of patients and engagements, and also improving healthcare professionals experience. So that's really the broad focus.

Now, within that there's specific solutions and solutions to help healthcare meet those goals often have non technical and technical components. We often help healthcare organizations with the whole puzzle, not just the technical puzzle pieces. For example, cyber security, privacy compliance often has nontechnical dimensions to it but within the technologies really interested in cloud based workloads artificial intelligence is one that holds great potential for healthcare. So within healthcare, definitely focused right now on cloud based workloads and in particular artificial intelligence and machine learning to the extent that those can help healthcare meet their goals.

David S. : So what key decisions do you think organizations need to make when bringing AI into their healthcare solutions?

David H.: They need to focus on rolling it out in a way that's compatible with their processes, in a way that meets the business goals. I think one of the most key things is rolling it out in a way that augments or assists healthcare professionals. You know most AI and machine learning is narrow, it's task oriented, it has great potential to assist healthcare professionals, free them up enable them to spend more time with patients. And, frankly, there's just a ton of data coming from digitized health records. We've got consumer health wearables, apps, et cetera. You've got internet of medical things just fire hosing data. There's great value in that data to improve healthcare. But uh, it's beyond a human to process that data in real time. So AI machine learning can really assist or augment healthcare professionals by processing that data near realtime yielding insights that can help the healthcare professionals to deliver better care, reduce costs of health care, improve patient outcomes, et cetera.

But it has to be rolled out in the right way to avoid a sort of immune reaction from the healthcare professional community. It has to be rolled out in a way that's compatible with processes. You gotta think about the cost elements, the resources required from a technical standpoint, the platform where you're gonna run your AI machine learning. A lot of healthcare is opting to run that in the cloud just because it's more agile, it's more scalable. Frankly, it's a lot more secure than a lot of on prem data centers if used in the right way. So those are some of the high points to consider when you're looking at AI for healthcare.

David S. : I know a lot of organizations worry about security when moving to the cloud. You're suggesting that it can actually be more secure?

David H.: Yeah, absolutely. Healthcare struggles to find security professionals. They're rare, they're expensive. Often healthcare organizations don't even have Chief Security Officers. In contrast a cloud provider, like Microsoft with Azure, has an army of security professionals, right? We have thousands of people dedicated to healthcare worldwide with decades of experience. We have doctors on staff, nurses on staff, so we really understand the healthcare domain. We really understand the security, privacy, compliance requirements. The platform is very secure and as healthcare puts their workloads in the cloud an important step is to not just assume the security's there, but make sure that you have your requirements from whatever your compliance ... your regulations are, your data protection laws, whichever ones are applicable what are the requirements and how are those implemented? 'Cause the cloud really provides you a

lot of controls and knobs, and levers, if you will, that enable you to meet the compliance requirements. That's only gonna happen if you use the right configurations and services.

David S. : And I understand that Microsoft provides blueprints and particularly one for AI in healthcare.

Gururaj: In the same vein that healthcare doesn't have a lot of resources and cybersecurity it's the same for IT, right? Healthcare doesn't often have huge IT teams. That's especially true of small to medium sized healthcare organizations, but even larger size healthcare organizations focusing more on delivering care, less on the IT side and so healthcare wants solutions, not projects, right, in short. In the past a lot of the strategy has been create how to documents, how to do AI in the cloud, for example, healthcare, have at it and the cloud's essentially a blank canvas, you have to start from scratch.

What a blueprint really does is gets them much further towards the end solution in terms of example code, test data, security, and privacy, and compliance support where they can download one of these blueprints, install it, configure it, run it, and then customize it and just the blueprint in and of itself if they pick one that's close to their use case they can get a good way towards the final solution, maybe 50 to 90 percent towards the final solution and then they're focusing more on customization rather than developing from scratch. So one of the blueprints we have as the AI in healthcare blueprint, which you can find at [Aka.ms/Alblueprint](https://aka.ms/Alblueprint).

David S. : Does it make sense that this is something a team might stand up and learn some of the different things they need to understand about implementing an AI solution? Is it something that we can build on and create our own solution?

David H.: Yeah, absolutely. It's the example code, the test data, the automated deployment, you can download it, you can automatically deploy to your Azure cloud, you can run it, you can poke at it, see how it works, and then start determining how you can customize that into your own solution needs. You might have a slightly different use case, you might have slightly different security privacy compliance requirements. You might have a different need for implementation.

For example, often the architecture is very similar, so AI for healthcare an architecture for one use case will be similar to another, but as you project certain components down into an implementation like a database, one organization may have a preference for one kind of database and other may prefer a different kind of database. And to some extent it depends on the test data, what kind of data, what volume, etc. preferences of the it team in the healthcare organization as far as their skillset. So it's really that kind of customization that needs to happen to close that gap again between what's delivered with a blueprint and what the healthcare organization actually needs for their specific solution target, if you will.

David S. : For those who may not want to jump in themselves are partners versed in these blueprints enabled to help set them up?

David H.: Yeah, absolutely. I think that's a fantastic opportunity as there's many Microsoft partners that are deep in this domain of healthcare, and AI, and how cloud can be used well to meet healthcare, business goals. And so for health care organizations that are really interested in the solutions and the business value that they can bring, the transformation but lack the resources still there are partners that you can go to. Definitely looking forward to hearing what Gururaj can share with us.

David S. : So what, David, is Microsoft specifically doing to help healthcare accelerate the adoption of AI and realize some of its benefits?

David H.: Yeah. So Microsoft provides these platforms to empower healthcare professionals to deliver better patient care, right? And again, the goals are the business goals, reducing costs, improving patient outcomes, improving experiences of patients and engagement and improving healthcare professional's experiences. So we provide these platforms that can be used by healthcare to meet those business goals. And one of those is Microsoft Azure, right? And that's the cloud. And now we have the intelligent edge as well. We've got Azure IOT Edge, you've got Azure Sphere, we've got Azure Stack, etc.

So it's not just the cloud, there's a whole spectrum of platform options if you will, depending on the particular needs. So it's all about providing those platforms but also the support around it, right? The healthcare expertise we have at Microsoft, just thousands of people many with decades of experience in healthcare across segments worldwide, and doctors on staff, nurses on staff and it can really help healthcare organizations take their business need to what's the solution, including the nontechnical components. But then as far as the technical components, what are the platforms, what are the solutions running on those platforms, what are the partners that can get involved and helping them close that gap between the business need and, and the end solution as quickly as possible.

David S. : With the advent of artificial intelligence, some healthcare workers are concerned that AI will actually replace doctors or other healthcare jobs. What's your take on that?

David H.: Yeah, we really don't see that happening. AI and machine learning are narrow right now. They're task oriented. They're not like person or role oriented. They're not general enough for that. So really one should look at them as technologies that will assist or augment healthcare professionals not replace them. So again, there's just tons of data in healthcare today with the digitization of health records and that's gonna be compounded with data coming from internet of medical things of all kinds, consumer health, wearables, etc. It's just gonna be fire hosing into healthcare and there is no way that a human can keep up with that data and glean the insights in real time like AI and machine learning can. So they're really a digital assistant, if you will, for healthcare professionals to help them harness that data 'cause it has amazing insights, right?

These wearables and internet of medical things could get data from inside patients, implantables, on patients. If it's wearables around patients, whether it's the patient home, or the hospital room, or the workplace, or whatever can get this data and can really be used to help glean insights. That's where AI machine learning can come in is

processing this data near realtime, yielding insights that then empower the healthcare professionals to deliver better care

David S. : And make decisions on the fly that're evidence based.

David H.: Absolutely, and the key is it's not like one AI, right? There's gonna be thousands of models for different use cases. Another opportunity is with looking for secondary issues. Patients often when they get, say, a diagnostic image, like an X Ray, there's a specific reason the doctor prescribed that X Ray, right? There was some symptom and the doctor had a hypothesis and prescribed the extra so they could test that. And sometimes the X ray reveals secondary issues, right? The original sort of root cause might be different from the initial hypothesis.

That's something that an AI machine learning can help with is as the X ray's taken that X ray machine takes a thousand images a day. What if you could process those in the background and look for these secondary issues and deliver the insight to the healthcare professional, "Hey, that X ray that was taken, here's another thing to look at that might also be at play with this particular patient."

Another opportunity is let's say a thousand X rays are taken in one day. The AIs, all the models the thousands of models can be run on that image or that whole batch of images say overnight and the next morning it could have identified, "Hey, here's the top 10 patients you really need to focus on next because they're in imminent danger of having an episode like a heart attack or something that would really diminish their quality of life potentially and add a lot of cost into the healthcare system." So it's all about those kinds of insights, real time and the interventions to avoid episodes.

David S. : Let's talk with Google Raj a bit and see what his companies have been doing in the healthcare space.

Gururaj: Well that's a very broad question. Let me split that into multiple parts. But before I do that, I just want to congratulate David Holding on his amazing eloquence on the on the healthcare insights, I'm always amazed by that.

So to your question, David, a little about our [inaudible 00:14:31] and a little about AI in healthcare and a Microsoft partnership. We'll talk to that. [inaudible 00:14:36] has a [inaudible 00:14:39] relationship with Microsoft in the healthcare as well as other regulated industry space and we stand here today with a relationship in multiple dimensions.

The first dimension is to our cloud security and compliance product offering, called Cloud [inaudible 00:14:53], which is an Azure marketplace SaaS service and we GTM it with Microsoft as well as various industry partners. In the second part to our Azure consulting services to be helpful with joint customers in Azure and Office 365 options family in a safe, secure, and responsible way.

But most specifically to your question on what we do in the ER and healthcare front we have seen they are following three trends in the market and we have production service offerings associated to them. The first big trend, I think, as David Holding pointed out healthcare customers are adopting Azure like crazy. So there's a frenzy in a marketplace where Azure customers are adopting. However, there's a lot of services which are missing in that space. Safe onboarding or safe migration to Azure understanding, as well as education services, as well as how to do dev ops or engineering services on Azure are predominant ones that we cater in the consulting space.

In the second trend we have seen that many customers have been investing in data science and AI, especially predicting the preventative or treatment related techniques and driving positive patient outcomes. However, this being a relatively new field, pretty much in the mid size to even some of the large caps, it turns out that the lack of knowhow on how to implement the entire AI related software development lifecycle in Azure is a critical point. So from Albyan's standpoint, we carry out various devops and AI ops for our customers to mitigate that risk.

The third trend that we're seeing is customers really want to do all of the above in a safe, secure, and a compliant way. So security of data management as well as the underlying infrastructure becomes a very critical focal point. Automating security and compliance across radius industry benchmarks like regulations, Or HIPAA compliance, CIS nest, GDPR should become part and parcel of the AI adoption to render those services through a product offering.

David S. : So if people could reach out for some help with accelerating their AI initiatives, where would you point them?

Gururaj: Well, that's a very good question. It touches upon the what's in the house of the adoption at a customer location. In our experience, assuming that the organizations have the required executive sponsorship as well as the necessary talent in the data science piece, we can think of outlining to support maybe three adoption initiatives, if you will. The first step would be to learn about ML and data science which many customers are doing today. That's the foundation though.

The second step is to operationalize all of their learning into the AI deployments across radius enrollments. And the big piece that is the blueprints, as David was mentioning as an advantage, is to coach and customers understand how the [inaudible 00:17:52] life cycle can be progressed by making change management that's out of their dev test production environments. The operationalizing of ML departments would be a key.

And the third one would be to continuously validate their entire security posture for their Office 365 as well as Azure workloads, especially in the cloud infrastructure and [inaudible 00:18:12] piece. To showcase these we partner with various Microsoft engineering build teams as well as the Azure ecosystem partners to jointly being together the Azure healthcare blueprint. We do certainly believe that the blueprint enables the entire healthcare industry to understand, tryout, and customized various Azure data sciences. Scenarios like data ingestion, storage, and processing in a secure way. They are able to train and expose [inaudible 00:18:40] and connect them to Azure

services in a single department. Needless to say we have seen a huge adoption of the blueprint and David has been a big proponent for that.

David H.: Yeah, excellent points by Gururaj. Definitely agree with all of that. And I think just to add to that, there's a lot of discussion about AI machine learning, and healthcare. There's a lot of great potential, not a whole lot of action, right? I think there could be a lot more direct hands on experimentation, evolution of AI machine learning. So for those organizations that are getting close to being ready to actually get some hands on with AI machine learning for healthcare, the blueprints are a wonderful place to start. You're not just talking about how to documents and here's a blank canvas with a blueprint for AI in healthcare, you're downloading it, you're installing, configuring it,, automatically deploying it, and running it and then you can customize from there.

So it's a great way to get started very quickly with AI and healthcare, and have running components. You can see the different components and the architecture. You can see the security compliance support. You can see the example code and then you can figure out, "Okay, how do we need to change this to get to the solution that we actually want to implement for our specific scenario?" To Gururaj's point. So where you can get the blueprint, again, [aka.ms/AIblueprint](https://aka.ms/AIblueprint). Definitely encourage you to take that next step.

David S. : Thanks for that David. Gururaj do you have any closing thoughts for us?

Gururaj: Well very similar to what David said, we would encourage the customers to get their hands dirty by trying out a blueprint. We understand that in the small and medium organizations they are still about to onboard Azure. Blueprints will definitely help them, but if especially if you're a large capital and enterprise, we do believe that you might have a Microsoft account manager or someone working with you on a dedicated relationship. Do reach out to them, apply it, customize it, play with your own algorithms. Good luck there.

David H.: Yeah, absolutely and just add to that we always love your feedback. If you have feedback on the blueprints, what worked well, what we could improve. We love to have that circle back with us. I think David Starr, you'll include some information in the footnotes for the podcast where they can look back and get in touch. Right?

David S. : Absolutely. We'll have links in the show notes.

David H.: Excellent.

David S. : We are about at time. Thank you both so very much for being on the show today.

David H.: Thanks David. Pleasure being here.

Gururaj: Absolutely a pleasure.

David S. : Thank you for joining us for this episode of the Microsoft Industry Experiences Team podcast, the show that explores how industry experts are transforming businesses with Azure. Visit our team at [aka.ms/indxp](https://aka.ms/indxp), and don't forget to join us for our next episode.