



## GCP AND VISION AI POWER NEW OPPORTUNITIES FOR IMGIX

### TECH INNOVATOR'S PLATFORM PROCESSES 6 BILLION IMAGES DAILY

**CLIENT**  
imgix

**INDUSTRY**  
Internet

**TECHNOLOGIES**  
Google Cloud Platform

**BUSINESS NEED**  
imgix needed a team of domain experts to sustain their next decade of operations. The company needed to move from on-prem systems to a scalable cloud platform that could support machine vision and AI capabilities, as well as high-velocity worldwide use.

**SOLUTION**  
Pythian helped imgix set up and train its initial Vision AI models and to finalize several use cases that would leverage Vision AI and Cloud Spanner. The vast computing power available has made the process far faster and more comprehensive than any human user could manage.

From online marketplaces and popular media, to social networking sites and retail apps, images dominate the internet. In fact, their exponential growth has many companies struggling to manage all their visual assets. Combine that volume of pictures with the variety of devices and screens now in use, and it's clear why high demand exists for image management tools.

imgix, founded in 2011, solves those challenges with a robust platform that renders images at optimal size and quality, regardless of a user's browser or device. It's an innovative solution that has attracted investors and customers around the world.

"We want to be that critical pillar of infrastructure that people rely on to make their websites and mobile applications as visually friendly as possible," explained Chris Zacharias, CEO and founder of imgix.

However, the on-prem systems that fueled imgix's first nine years of growth were not built to sustain their next decade. Zacharias and his team knew it was time to develop an infrastructure for the future.

As an engineer himself and a former YouTube employee, Zacharias recognized the power of Google solutions. He also realized that even the most sophisticated Silicon Valley firms will achieve stronger results when they team up with domain experts. That's where Pythian stepped in.

Together, imgix and Pythian:

- Collaborated to make smart tech decisions.
- Launched new capabilities on Google Cloud Platform (GCP).
- Introduced Google Vision AI and machine learning.
- Developed sound strategy to support future worldwide use.

"Working with Pythian gave us the ability to accelerate our development process," Zacharias said. "We knew the answers we were getting were solid."



## RESULT

imgix now has the robust and scalable Google tech stack they need to add functionality and grow their platform. Vision AI and machine learning will be a big part of their evolution, as the company continues working to empower developers and businesses. In addition, their AI-driven knowledge will continue to expand, giving them more analytics—and more options—to serve their clients.

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## BUSINESS CHALLENGE

### Even Tech Experts Appreciate A Second Opinion

With image volumes growing, imgix needed to:

- **Move beyond on-prem constraints.** The same systems that powered their sleek, real-time image rendering were unable to support new capabilities like AI.
- **Automate image search and organization.** As more customers built deep image archives, the ability to understand, catalog and find images grew in importance.
- **Choose the right technology for future growth.** Company leadership knew today’s architecture decisions would have long-term impacts.

Are we making the right decisions about our tech stack?

That fundamental question prompted imgix to seek outside guidance. The company needed to move from on-prem systems to a scalable cloud platform that could support machine vision and AI capabilities, as well as high-velocity worldwide use.

While the in-house team was well-qualified, they realized their choices would have far-reaching impact. Time spent with domain experts would pay off quickly.

“Those big decisions around how you build your infrastructure so it can scale globally are very hard to walk back once you make them,” Zacharias noted. “We would have gone through a tremendous amount of pain if we’d picked the wrong technologies.”

imgix knew Google was the right foundation, but wanted to ensure their overall strategy, architecture and tools were equally sound. Finding the right partner was key.



“Our team is heavily engineering-oriented and many are from Google,” Zacharias said. “The people we would be working with had to be knowledgeable at a high level. Pythian proved that to us very quickly.”

Through a series of in-person meetings and online collaboration sessions, Pythian quickly grasped imgix’s needs, validated their approach and offered additional ideas. They recommended valuable tools—from Kubernetes to Terraform—to streamline development efforts. Pythian also shared examples and best practices to help imgix understand their options.

The two organizations rapidly built a strong, trusted relationship.

“Pythian validated what’s possible on Google Cloud and made sure we didn’t paint ourselves into a corner,” Zacharias said. “Their technology selections were well reasoned and rationalized. We know we can trust them.”

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— Chris Zacharias, CEO, imgix

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## SOLUTION

### Vision AI Unleashes New Opportunities

Pythian helped the tech innovator:

- **Validate decisions with Google experts.** Pythian’s experienced team helped imgix understand the potential within each application and create the ideal tech stack to achieve their goals.
- **Unleash the power of the cloud.** Moving to GCP provided the much-needed flexibility and scalability to introduce new functionality and support growth.
- **Apply the muscle of AI.** Using Google Vision AI and Google Cloud Spanner, imgix can now “see,” analyze and even auto-tag vast amounts of image content to reduce manual effort and improve its user experience.



From its inception, imgix revolutionized how websites and mobile apps load and display images. Now, the company was ready to improve how users find, catalog and learn from their images. Moving to GCP provided the necessary foundation and bandwidth. Adding AI would take their solution to a new level.

Automation was key, due to the sheer number of images many organizations now maintain. The imgix platform processes more than 6 billion images every day.

Pythian worked with imgix to finalize several use cases that would leverage Vision AI and Cloud Spanner. Using these sophisticated machine vision capabilities, the AI model “sees” each image and identifies its content. The vast computing power available makes the process far faster and more comprehensive than any human user could manage.

“Google has best-in-class artificial intelligence,” Zacharias said. “Their scalability is well proven and unmatched. Their documentation and code examples are really strong.”

Pythian helped imgix set up and train its initial Vision AI models. The more images they scan, the stronger their intelligence becomes. In its initial beta, imgix is already processing more than 100 million images each day.

“We can now tag all images with machine-trained tags, and that empowers our search algorithm,” Zacharias explained. “We’ve paired that with AI-learned tags. It’s incredibly powerful.”

With automated tagging, customers can filter their images in nearly unlimited ways, such as by color, subject or shape. AI capabilities also let them identify duplicate images, apply facial recognition to improve how photos are cropped, or screen for copyrighted or potentially explicit content. These features are particularly important for sites that thrive on user-generated content.

“We’re just starting to train our own visual models,” Zacharias noted. “It’s very simple in Google Cloud. We anticipate going deeper and deeper into custom-trained machine learning.”



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## RESULTS

### Pythian Helps Imgix Continue Innovating

With its new Google infrastructure, imgix has:

- **Established a platform for growth.** The company’s thoughtful and disciplined approach, combined with proven Google solutions, lets imgix move forward with confidence.
- **Empowered its customers with new tools.** Developers and businesses can now automate image tagging, improve image search and create a stronger user experience.
- **Continued its track record of innovation.** By applying the power of AI and GCP, imgix continues to improve the quality and ease of image use across the internet.

The strong partnership between imgix and Pythian translated into faster development and tangible results. Zacharias credits the expertise, focus and camaraderie of the Pythian team.

“Everybody we’ve worked with has been fantastic,” he said. “Pythian definitely understands what we’re trying to do. We were able to make really critical decisions after just a few hours. That was huge.”

He added, “It doesn’t hurt that they’re hockey fans.”

Going forward, imgix now has the robust and scalable Google tech stack they need to add functionality and grow their platform. Vision AI and machine learning will be a big part of their evolution, as the company continues working to empower developers and businesses.

As more users engage their platform, their AI-driven knowledge will continue to expand, giving them more analytics—and more options—to serve their clients.



“We plan to use that information to actually drive how images are rendered,” Zacharias said. “The better we get at machine learning, the better the images on the internet are.”

They will definitely tap into Pythian’s knowledge in the future.

“We value Pythian’s experience level, the ability to work at a high level and to make those technology recommendations,” Zacharias said.

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#### ABOUT PYTHIAN

Founded in 1997, Pythian is a global IT services company that helps organizations transform how they compete and win by helping them turn data into valuable insights, predictions and products. From cloud automation to machine learning, Pythian designs, implements and supports customized solutions to the toughest data challenges.

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