

**Using automated
intelligence**
to improve the
customer
experience

**Nash
Tech.**

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It's fair to say that over the course of just a few months in 2020 and 2021, consumer expectations changed beyond recognition. The ability to conduct every aspect of our lives online is no longer a nice-to-have, but an expectation in all circumstances, and experiences that seemed unthinkable two years ago have become a reality.

A visit to the doctor used to mean sitting in a waiting room, followed by a face-to-face consultation. **More often than not, it now means a video-based discussion.** Travelers are unlikely to check-in at an airport ever again, instead preferring a **digital experience**. Students expect an **immersive university experience** at the swipe of a smartphone screen. Bank customers expect to be able to complete all financial transactions instantaneously online, 24/7.

To reflect this new reality, organisations are having to refocus their digital efforts, using artificial intelligence, machine learning and robotic process automation to meet rapidly evolving demands in a cost-effective way. In parallel, companies need to incorporate new data and create new models to enable real-time decision making.

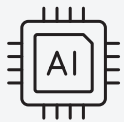
Reimagining the customer experience with increasing personalisation will enable companies to successfully navigate a post-Covid-19 reality. Creating enterprise-level intelligent automation solutions optimises business offerings in dynamically changing market conditions, making operations as effective as possible.

Healthcare, education and insurance are three industries that have already made great strides in their ability to establish ways to simultaneously lower servicing costs and provide customers with whatever they need, whenever they need it. We take a look at these sectors in more detail and outline our five tips to improve the customer experience by implementing intelligent automation successfully.



What is intelligent automation?

Intelligent automation is the combination of artificial intelligence, machine learning and robotic process automation that is used to create business processes and workflows that learn, think and adapt.



What is artificial intelligence (AI)?

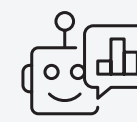
Artificial intelligence — or AI for short — is technology that enables computer systems to apply cognitive decision making by learning patterns in the data. It orchestrates sets of data provided from within the organisation as well as data from the market to tailor its responses based on what it continuously learns. AI systems can include anything from an expert system — a problem-solving application that makes decisions based on complex rules or 'if/then' logic — to a computer that develops the capability to mimic the human thought process through gathered examples and conducted experiments. Read more about artificial intelligence [here](#).



What is machine learning (ML)?

Machine learning — or ML for short — is a subset of the AI application that evolves with limited human intervention in the data models it is composed of. As it digests more pattern representative data, it reprograms itself to perform specific tasks with increasingly greater accuracy.

Machine learning is the process behind many familiar platforms and services, including YouTube, Netflix, Spotify, Google, Facebook and Siri. Each platform collects data about your preferences by analysing the links you click, the music you listen to and the films you watch, and then ML uses a pattern probability model to make a highly educated guess about what you might want next. Read more about machine learning [here](#).



What is robotic process automation (RPA)?

RPA is an application of technology, governed by repetitive patterns and triggered by structured inputs in order to automate time-consuming, tedious data handling processes. Using RPA tools, a company can onboard a virtual workforce — a 'software robot', to capture details stored in applications and systems, using it to process transactions, manipulate data, trigger responses and communicate with other systems. If there is a defined data handling step to performing a task, a robot will be able to replicate it.

By using RPA, businesses can mimic most human-computer interactions to carry out vast numbers of error-free tasks, at high volume and speed. This enables employees to spend more time serving customers or undertaking other higher-value work. Read more about how to unleash the power of automation [here](#).

Healthcare technology—
swapping the stethoscope
for the smartphone



Healthcare technology

One of the lasting consequences of Covid-19 is likely to be the rise of HealthTech in improving the customer experience and driving a better patient outcome.

Technology-based solutions are enabling doctors to expand their reach with the ability to remotely examine more patients in a shorter amount of time, minimising the number of people entering hospitals and medical facilities.

Artificial intelligence is also playing a critical role in the fight against Covid-19, including pandemic detection, thermal screening, vaccine development, facial recognition with masks, and analysing CT scans.

Healthcare remains a critical sector in the U.S. economy and **close to \$4 trillion** per year is spent on it. It employs more people than any other industry, **accounting for 11%** of all American jobs. **Nearly one quarter** of all U.S. government spending is on healthcare.



What is HealthTech?

According to the **World Health Organization**, health technology — or HealthTech for short — is “the application of organised knowledge and skills in the form of devices, medicines, vaccines, procedures and systems developed to solve a health problem and improve quality of lives.” HealthTech can be found in very familiar products such as glasses, syringes or latex gloves, wearable technology such as smartwatches and health trackers, as well as high-tech devices, like full body 3D scanners or neurostimulators.

Why is HealthTech important?

HealthTech is not only bringing about more patient-focused, easy-to-use and seamless healthcare systems, but it is leading to improved clinical results at a far faster and lower cost.

Over the last few months, there's been a global surge in demand for remote healthcare solutions in order to treat and prevent the spread of coronavirus. There has also been demand for more remote treatment and monitoring of existing illnesses. Read how robotic process automation is helping healthcare providers overcome the challenges of the pandemic [here](#).

Healthcare technology

HealthTech applications in diagnostic, treatment, nursing staff and pathology services are creating faster, more accurate and personalised treatment, as well as improving resource efficiency.

From identifying data patterns and extracting insights to taking targeted cost-effective action, artificial intelligence and machine learning offer an unprecedented opportunity to reimagine the healthcare industry in three broad areas:

1. Pharmaceutical (the R&D of new medical drugs).

A **study published by the Massachusetts Institute of Technology** (MIT) concluded that only 13.8% of drugs successfully pass clinical trials. In addition, pharma organisations can **pay upwards of \$2 billion** for any drug to complete the entire clinical trials process and get FDA approval. AI can speed up the initial screening of drug compounds to the predicted success rate based on biological factors. Precision medicine or next-generation sequencing helps in the faster discovery of drugs and tailored medication for individual patients.

2. Clinical (the delivery of patient care). AI-generated insights can influence diagnosis and treatment choices, leading to more effective treatments. For example, complex algorithms can analyse MRI scans, blood tests, x-rays, heartbeat and blood pressure results in real-time, facilitating doctors' decision making on diagnosis and treatment. Decoding gene structures through machine learning can underpin diagnosis processes.

3. Administrative (healthcare operations). Intelligent manufacturing and supply chain solutions can help to ensure the right interventions and treatments are delivered when needed, leading to better patient outcomes.

Digital transformation has enabled healthcare players to provide more personalised and effective interventions to patients worldwide. As the Covid-19 crisis continues to shape the next normal, it is crucial that stakeholders in the healthcare industry understand how the application of technology is **changing the digital health landscape**.



Education technology —
personalising the
world of education



Education technology

Organisations demand exceptional graduates, and achieving those all-important top grades is the aspiration of students everywhere. In a remote learning environment, ensuring emerging talent reaches their potential can be a real challenge. Students are increasingly seeking a more personal experience where they are treated as a unique individual, and ground-breaking educational technology is helping to achieve this. Extended reality, including virtual, augmented, and mixed realities, helps create different learning opportunities that can engage people in ways that did not seem possible just a few years ago.

Artificial intelligence can bring enormous benefits to both students and teachers in the quest to achieve improved educational outcomes. By providing flexibility to adapt learning to a student's pace, it allows them to set personal goals and timelines, select their own learning path and improve with the help of data-driven feedback. As well as supporting learners in ways that suit their own needs, it can also enhance their wellbeing and social skills. Likewise, it can assist effective teaching while cutting teacher workload and improving assessment.

According to the [EdSurge EdTech funding database](#), in 2020, U.S. education technology startups raised over \$2.2 billion in venture and private equity capital across 130 deals. That's a nearly 30% increase from the previous year, marking the highest investment total in a single year for the U.S. EdTech industry.



What is EdTech?

Education technology — or EdTech for short — is the combined use of computer hardware, software, educational theory and practice to facilitate learning. EdTech encompasses everything from using computers, to the submission of homework online and informal mobile learning applications, gamification and virtual reality techniques.

Why is EdTech important?

The Covid-19 pandemic has forced educational institutions to embrace technology like never before and it has become a lifeline for the continuation of learning. For students and teachers alike, the potential of enabling personalised, mastery-based learning on student outcomes is becoming increasingly apparent and exciting. It also has the potential to save teachers' time, significantly reduce administration costs, and equip students across the world with the digital skills that they need to thrive as they enter the workplace. Find out more [here](#).

Education technology

“Technology will never replace great teachers, but technology in the hands of great teachers is transformational” author and educator George Couros recently said. The growing EdTech industry encompasses all technology that facilitates all learning.

Personalised learning, also known as adaptive learning, is one of the most important EdTech evolutions. Personalised learning tools use AI to understand what learning path or support is most appropriate for each student and then adjusts the content of a lesson based on the student’s individual performance. A virtual classroom might all be studying the same topic, but each student is focused on an element they need the most help with.

Other EdTech solutions currently under the spotlight include:

- **Student experience applications.** Development of a suite of portals and applications across the student journey, covering admissions, student information systems, loan applications and accommodation.
- **Virtual learning environments.** Comprehensive custom learning management solutions, leveraging both custom features, plug-ins and integrations to enrich platform functionality, as well as cloud migration and comprehensive testing services.
- **Invigilation and assessment tools.** Artificial intelligence powered services to validate participants in online exams, with multi-point verification including image recognition and keystroke pattern detection.
- **Corporate learning systems.** This is an emerging opportunity for EdTech as organisations are increasingly using technology to help foster learning cultures, cultivate learning communities and build learning into the workflow.



Insurance technology —
creating a modern
customer experience



Insurance technology

The insurance industry is more than 300 years old. The first American insurance company was organised by Benjamin Franklin in 1752 as the Philadelphia Contributionship. Remarkably, for many insurance organisations there has been little change to the basic premise of the way they offer products over the course of their history. Insurance companies apply broad actuarial tables to assign customers with a risk category, and policies become profitable when enough people are placed in similar categories. Traditionally, customers have agreed to the terms of these policies on a long-term basis with little room for alterations.

These days, customers are looking for a more personalised **experience**. In line with other retail purchases, the ability to buy solutions that are tailored and priced to their specific needs and individual circumstances is quickly becoming an expectation. People want to buy insurance in a way and at a time that suits them.

As a result of Covid-19, more customers are looking for providers with strong digital capabilities. A recent **PWC survey** claims that 41% of consumers are likely to switch their insurance company in favor of a more digitised one. The market is ripe for disruption.

Responding to changing consumer demands is far from straightforward in an industry built on risk and the ability to make predictions of how big a risk a person, business or an event is.

But help is at hand! The more information an insurer has about the consumer, the more accurate the prediction. AI is capable of analysing data and situations accurately and at speed, enhancing customer personalisation.

InsurTech is taking advantage of our technology enabled lives to access customer real-time data. Devices such as smartwatches which assess health related information and telematics on cars that monitor driving habits are simple examples of our game-changing digital reality. Propelled by innovation and AI, insurance companies are able to offer ultra-customised insurance and dynamically-priced premiums.

The global **InsurTech market** size is expected to reach USD 60.98 billion by 2028, according to a new report by Grand View Research, Inc. It is projected to register a Compound Annual Growth Rate of 48.8% from 2021 to 2028.



What is InsurTech?

Insurance technology — or InsurTech for short — refers to the technologies and innovative digital tools which enhance the performance of insurance companies to deliver an improved customer experience and unlock the potential of advanced analytics.

InsurTechs are usually technology-led organisations which enter the insurance sector to optimise new technologies and provide coverage to a more digitally savvy customer base.

Why is InsurTech important?

Innovation through new technologies continues to be a key driver of change in the financial sector, which has led to an improved customer experience and significant efficiency gains over many years. Hot on the heels of the 'FinTech' revolution, InsurTech is reshaping the insurance industry. New insurance products and services are developing to meet the needs of a customer base which has changing expectations. Costs are beginning to decrease as new ways of doing business evolve and emerging technologies not only place consumer expectations at the centre with a more personalised experience, but also streamline back office operations.

Insurance technology

Fuelling low cost business growth

InsurTech is already increasing sales while improving the customer experience at the lowest cost. There are many examples of this, including:

Driving sales

AI-powered customer journey mapping and understanding customer behavior are enabling new ways to match continuously changing customer expectations with the creation of data sets and insights that drive sales.

One example of this is the use of analytics and AI to derive insights from customer profiles in order to define new or refine existing insurance needs, upsell to them and re-engage inactive customers, all with minimum spend.

Consider the ads you get shown online. They tend to be for the type of products you have shown an interest in. Predicting your interests in real-time makes it more likely that you will click on the ad and buy the product. Implementing analytical and predictive AI helps to personalise the marketing approach and improve the customer experience.

Processing car insurance claims

Insurance companies are increasingly using **artificial intelligence** and machine learning to assess car damage when claims are made.

Following an accident, policyholders simply supply photographs of the damage. Machine learning identifies which parts of the vehicle have been affected and how, which generates a detailed estimate, including recommended repair and paint, as well as costs and labour hours. Accurate assessments stem from technology which is trained on millions of photos of car damage, and the algorithms learn from experience. Claims can be processed within minutes, leading to low cost, customer retention as a result of timely and high quality service.

Serving customers and detecting fraud

Natural language processing (NLP) is a subset of artificial intelligence that processes and analyses large amounts of data that has been captured to reflect the ways humans speak, write or record information.

Insurance companies are **using NLP** to develop conversational chatbots that can respond to customer questions, create quotes and help them to complete a claim form via an online chat facility. At the same time, NLP can also detect fraud by finding common phrases or descriptions of an accident among multiple claimants, which is usually an indicator of organised fraud.



Considering implementing intelligent automation?

Five tips to improve the customer experience

Enabling your organisation with the best intelligent automation solutions is rarely as difficult as it sounds, and the customer experience/cost benefits are significant. To be successful, we recommend that organisations:



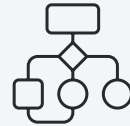
1. Deliver against changing customer expectations at the lowest cost

Focus your automated intelligence journey on staying in tune with evolving customer needs, simplifying operations and growing your ability to respond to market opportunities and threats. Designing IT ecosystems that seamlessly handle data, will create room for your teams to provide empathetic customer care.



2. Underpin your business strategy with automation solutions

Bring your vision to life and reap expected results by defining the trends, parameters, and operational decisions that are crucial for your business and its competitive advantage. When these navigation points have been identified consider embedding automation across all business processes in all geographies.



3. Ensure that your resources are at the heart of applied automation

As market realities change, so do business goals. Embarking on digital transformation is a continuous journey and keeping business experts involved is essential to success. This includes an ongoing ability to redefine and add new processes, ensuring adequate IT support to effectively manage solutions infrastructure and the orchestration of work between team members and a virtual workforce.



4. Promote your digital transformation journey and upskill employees

Create learning and development opportunities in line with your technology goals and involve employees in actively contributing to the automation journey. Set up operational centres of excellence and encourage ongoing ways to collaborate and to drive value.



5. Cooperate with a forward-thinking, long-term technology partner

Understand and plan for the number of integrations needed to successfully enable automatic data handling across your organisation. Avoid tactical solutions where possible, as these can become comparatively expensive over time. Assess offers by single platform providers to orchestrate the entire intelligent automation journey.

Fuelling a personalised customer experience

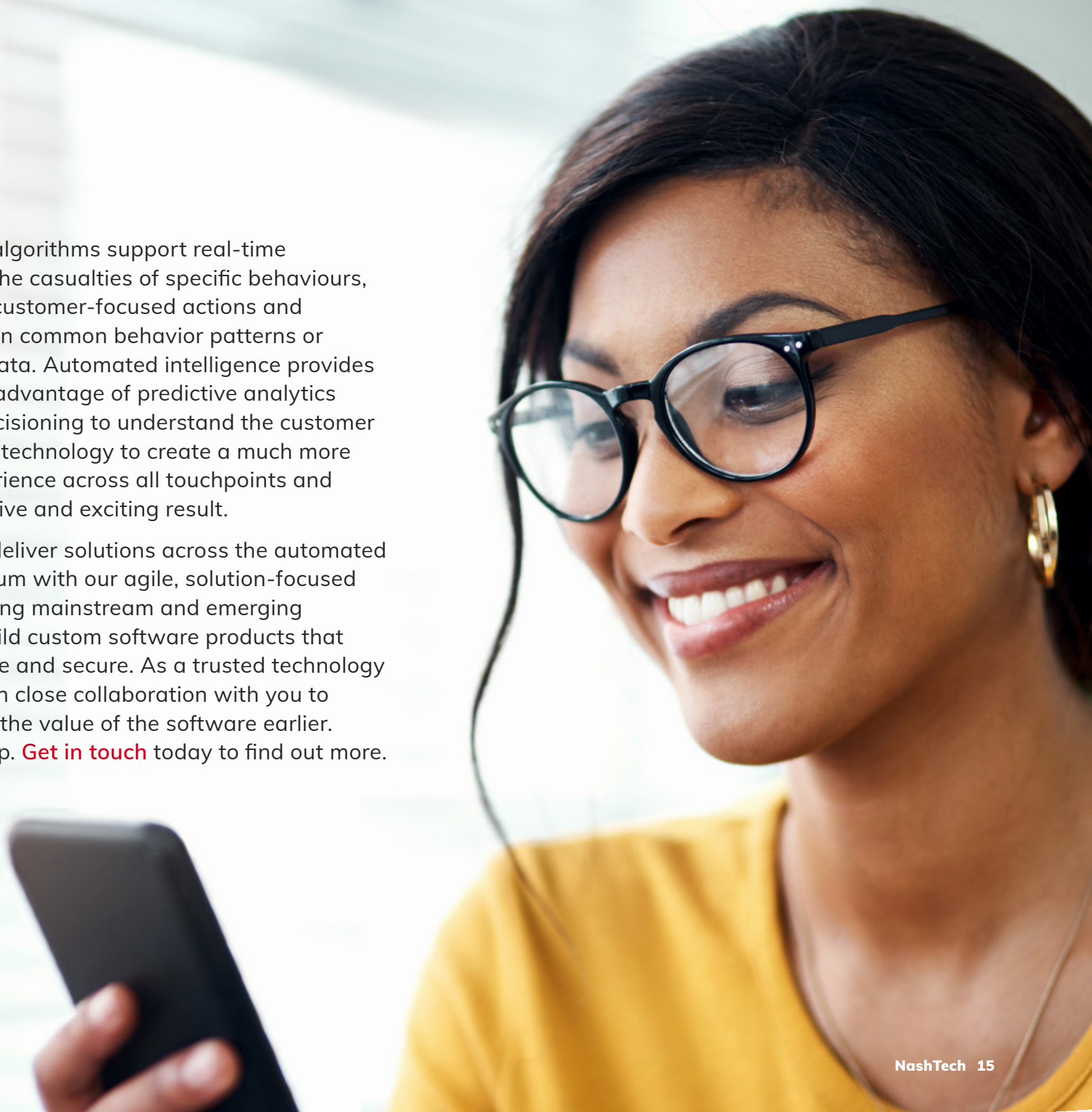
There is no doubt that the exponential rise in intelligent automation will continue to shape the way businesses operate and the customer experience. Whether it's HealthTech, EdTech, InsurTech or a different industry, technology will continue to facilitate new levels of productivity, efficiency and innovation.

EverythingTech

Earlier this year, Harvey Nash Group launched its 2021 Technology and Talent Survey and nearly 1,800 people working in technology responded. When asked about their organisation's most important technologies to achieve their business goals, AI featured in the top 3 for the first time. 30% of respondents felt that a significant part of their job will be automated within the next 10 years. The results of the full survey can be found [here](#).


Machine learning algorithms support real-time understanding of the casualties of specific behaviours, targeting specific customer-focused actions and responses based on common behavior patterns or anomalies in the data. Automated intelligence provides the ability to take advantage of predictive analytics and immediate decisioning to understand the customer better. Leveraging technology to create a much more personalised experience across all touchpoints and channels is a positive and exciting result.

At **NashTech**, we deliver solutions across the automated intelligence spectrum with our agile, solution-focused approach, leveraging mainstream and emerging technologies to build custom software products that are robust, scalable and secure. As a trusted technology partner, we work in close collaboration with you to ensure you realise the value of the software earlier. We are here to help. [Get in touch](#) today to find out more.



We are experts in technology, delivering smart solutions that solve business challenges and create value. Our award-winning teams apply deep expertise and passion to deliver complex IT projects globally.

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