Safe and Responsible AI in Australia: Discussion Paper

Submission from Stripe, July 2023

Introduction

Thank you for the opportunity to provide this submission in response to the Safe and Responsible AI in Australia Discussion Paper. We hope that, by outlining how Stripe uses Artificial Intelligence and Machine Learning technologies, we can assist the Government as it seeks to develop a regulatory environment which enables responsible innovation in these essential technologies. We look forward to continued engagement with the Government.

About Stripe

Stripe is a financial infrastructure platform for businesses. Millions of companies—from the world's largest enterprises to the most ambitious startups—use Stripe to accept payments, grow their revenue, and accelerate new business opportunities. Headquartered in Dublin and San Francisco, our aim is to increase the GDP of the internet.

Our founders—Irish entrepreneurs Patrick and John Collison—established and scaled their own startup prior to forming Stripe. This gave them first-hand experience of the difficulty of accepting online payments. On almost every front, it was becoming easier to build and launch an online business. Payments, however, remained dominated by legacy providers. It seemed clear that there should be a developer-focused, instant-setup payment platform that would scale to support a business of any size. Stripe started off with payments in 2011, and we now provide access to software tools (like identity verification, tax compliance, and fraud management) and financial services (like loans, cards and accounts). Not all these products are currently available in Australia - and we are continually evaluating the appropriateness of bringing additional products to the local market.

Stripe has been serving Australian businesses since 2014. We power many of Australia's largest and most ambitious companies from complex new businesses—like Atlassian and Canva —as well as established organisations—such as Westfield—that are mapping out their next decade of growth. We

continue to invest heavily in Australia. Our local team continues to grow strongly, with team members across software engineering, sales, marketing, financial partnerships, compliance and legal.

Stripe has always been deeply embedded in the tech ecosystem. Our first customers were friends who were starting companies, and we still spend a lot of time with startups and tech-first businesses. We try to better understand what they're up to, what they need, and what could help more get started. We want to support startups from the first lines of code through IPO and beyond. Through our products, we have facilitated the emergence of new online business models, enabling platforms, marketplaces and SaaS to help reinvent whole industries. In Australia, a wide range of organisations run on Stripe, so they can focus on delivering for their customers, including Service M8, Mr Yum, Coviu, CultureAmp and SafetyCulture.

How Stripe uses Machine Learning

Machine learning refers to a body of techniques for taking pools of data and using that data to produce models that predict outcomes, such as the likelihood a charge will result in a fraud dispute. One of the main applications of machine learning is prediction—we want to predict the value of some output variable given some input values. Stripe deploys machine learning in a number of products: for example, in helping businesses using Stripe to fight fraud, confirm the identity of users, and access working capital. Whilst not all of these products are currently available in Australia, we provide the below commentary to help contribute to the discussion on AI regulation some concrete examples of the ways in which companies are innovating using AI to deliver value across the internet economy and for our users.

Stripe's Annual User Letter 2022[1]

Internally, it's clear that ML and AI advances will continue to improve the quality of our products and to make them even easier to use. Alongside GPT-4's launch, we launched Chat GPT-4-Powered Stripe Docs. Every user can soon benefit from an AI research assistant who has devoured the whole Stripe documentation and is available 24x7 to developers designing their integrations. We have also seen significantly improved fraud detection performance thanks to transformer-based models that can better handle Stripe's scale and breadth of data.

Detecting fraudulent transactions (available in Australia)

Recent research[2] commissioned by Stripe found that 64 percent of global business leaders say that since the onset of the pandemic it has become harder for businesses to fight fraud. We believe technology has a vital role to play in addressing this. That's why we use machine learning to reduce

[1] https://stripe.com/en-gb-sg/annual-updates/2022

[2] https://stripe.com/en-gb/guides/state-of-online-fraud

online fraud and help approve more legitimate transactions globally. Stripe Radar uses adaptive machine learning, the result of years of data science and infrastructure work by Stripe's machine learning teams, to protect our users from fraudulent actors. Stripe Radar's algorithms evaluate every transaction for fraud risk and take action appropriately, scanning every payment using thousands of signals from across the Stripe network and assigning a risk score to each payment.

While many high risk payments are blocked automatically, Stripe Radar provides tools so that users can specify when other actions (automatic blocks or manual reviews) should be taken. It allows users to set their own rules to identify fraud and to send some transactions for manual review instead of blocking or allowing them outright. Having manual review, rules, and interventions to authenticate high-risk customers as additional tools gives companies another lever to optimise fraud outcomes, and also ensures that companies can combine the benefits of machine learning technology with the ability for human review. Stripe's dashboard also enables users to understand changes to their block rate over time, along with the proportion of payments blocked by both Radar's machine learning model and their block rules.

Verifying online identification[3]

Stripe Identity enables businesses to programmatically confirm the identity of global customers so they can prevent attacks from fraudulent actors while minimising friction for legitimate customers. Stripe Identity captures and verifies the authenticity of personal identification documents from more than 33 countries. It uses biometric verification to match photo ID with selfies of the document holder, helping to detect fraudulent actors and validate data against global databases. Machine learning is deployed to detect fake identification documents and spoofed photos, built on the same technology Stripe uses to defend against attacks on its own global network.

Providing working capital to growing businesses[4]

The financial services industry struggles to serve new, digital-first businesses. Indeed, easier access to working capital has been one of the top requests from Stripe users, particularly in new sectors of the online economy. Machine learning enables us to provide these internet-first businesses with access to finance that suits their needs. Launched in 2019, Stripe Capital provides our business users in the US with access to fast, flexible financing to support cash flow and invest in growth. We determine eligibility leveraging machine learning technology and using a combination of factors, including overall processing volume and history on Stripe. Repayments are collected automatically through a percentage of the business user's processing volume.

[3] Not yet available in Australia
[4] Not yet available in Australia

How Machine Learning delivers value for Australian businesses: The example of Stripe Radar

The recent, massive acceleration in ecommerce has created a corresponding increase in online payments fraud. Worldwide, fraud costs businesses more than an estimated $20 billion annually. Plus, for every dollar lost to fraud, the total cost to businesses is actually much higher due to increased operational costs, network fees, and customer churn. Businesses need bespoke tools to identify and reduce fraudulent transactions. Stripe's recent research on online fraud, which surveyed 2,500 global business leaders, found that the incidence and type of fraud varies widely by geography, company size and business model.[5]

Stripe has built innovative controls including machine learning and transaction monitoring models to proactively detect potential fraud for our merchants and their consumers. Based on these detection models, our tools are designed to decrease fraud generally and mitigate risks, including in the payments ecosystem. For further information on the way Stripe's machine learning technologies help businesses, see the Annex.

As consumer behaviour and fraud schemes continue to evolve, fraud prevention needs to take into account the specific context of the business in order to be effective. Machine-learning models address this challenge by incorporating many context-specific nuances in order to reject only the most suspicious transactions, rather than putting in place blanket rules that can easily wind up blocking legitimate transactions.

Considerations for establishing Australia's approach to regulating AI

Stripe welcomes the Government's Discussion Paper and its objective of ensuring there is a clear and flexible approach to regulating AI in Australia. We welcome the focus on context, sector and risk-based regulation, based on guidance where possible. An iterative and tailored approach will also enable regulation to adapt to the changing use of technology.

As the Government further develops its thinking on a regulatory framework for AI, we support the recommendations in the Tech Council of Australia's report "Australia's Generative AI Opportunity"[6] that policy makers:

- Define the vision for Generative AI in Australia
- Support collaboration between research institutions and industry
- Provide regulatory clarity

[5] https://stripe.com/en-gb/guides/state-of-online-fraud

[6] https://news.microsoft.com/wp-content/uploads/prod/sites/66/2023/07/230714-Australias-Gen-AI-Opportunity-Final-report.pdf

- Incentivise adoption and innovation
- Invest in the right skills and support workers through the transition

We would also like to share the following considerations which broadly address the questions in the Consultation:

Maintain applicability of existing laws

We welcome the focus in the Discussion Paper on the application of relevant existing laws. AI will increasingly be a part of every business, regardless of sector. Economy wide laws, such as competition, consumer and privacy laws, should continue to apply consistently.

Avoid arbitrary risk classification

It is essential that any regulations are clearly defined, especially if regulation is going to be determined on the basis of risk. In the UK, Coadec's research[7] found that 68 percent of AI innovators said they would be concerned if regulation introduced a 'high risk' classification based on what sectors companies operate in, such as education or healthcare, regardless of an AI system's features. Should the Government decide to pursue a system of categorisation based on level of risk, 98 percent of startups in the UK survey believed that clearly defined categories would be necessary.

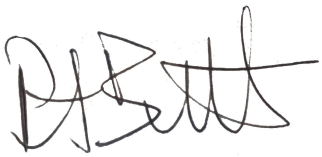
Provide a visible 'roadmap' for future regulation

In addition to flexible and proportionate regulation, AI innovators want frameworks that are simple and easy to implement, and as far as possible avoid a disjointed, piecemeal approach to regulating these technologies. Stripe's survey of EU startup founders' perceptions of regulation found that above all, they crave simple and easy-to-access guidance around regulations.

Continue to support international cooperation

As with any area of regulation, businesses operating in multiple jurisdictions can face challenges when seeking to meet different regulatory standards. Seeking to satisfy different rules and frameworks around the globe can limit innovation for both AI companies and end users. We therefore welcome the Government's adoption of the International Organisation for Standardization (ISO) definitions, and its participation in the Global Partnership on Artificial Intelligence, which aims to facilitate international cooperation in AI and foster responsible development. Continued engagement and dialogue on regulatory and technical standards for AI technologies with international partners, especially jurisdictions actively considering their policy approach to AI including the EU, Canada, the UK and Singapore, will be very important.

[7] https://coadec.com/wp-content/uploads/2022/07/05072022-AI-Report-For-Publication.pdf



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Annex: How Machine Learning helps the fight against fraud

Dermalogica reduced fraud rates by 50 percent

For over 30 years, Dermalogica has been a leader in professional skincare products, and expanded to 80 countries worldwide and developed a loyal base of in-home users. Dermalogica's mixture of professional and consumer online sales means that a one-size fits all fraud solution would not work.

Dermalogica needed to be confident in a low false positive rate for their professional customers while also protecting against fraudulent charges. Using Stripe Radar's whitelisting and rules, Dermalogica has been able to focus fraud prevention efforts where they matter most, and can ensure professional customers have a seamless ordering experience while providing extra protection for the higher risk orders. Its fraud rates have been cut by half, to levels well below those of typical ecommerce companies.

LetsGetChecked invested its developer resources into its core business

LetsGetChecked enables the public to access accurate diagnostic testing for a range of health areas from the home. Due to the COVID-19 pandemic, LetsGetChecked experienced increased demand for services and accelerated growth while releasing its at-home COVID-19 home testing service authorised by the US Food and Drug Administration. This rapid expansion resulted in an increase in fraudulent transactions.

With Stripe supporting payments and fraud mitigation, LetsGetChecked has been able to invest its developer resources into other aspects of its business, scaling to over 800% YoY growth. LetsGetChecked implemented fraud policies that include blocking certain IP addresses, placing payments with a high-risk score into review, and blocking all payments deemed "very high risk." The company then added mobile wallets to its payments experience, which allows consumers to check out 3x faster and significantly improves conversions.

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