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The brothers making a fortune revolutionising healthcare with AI

Aengus and Dimitry Tran's Harrison.ai wants to help 1 million people every day through its artificial intelligence diagnostic technologies. From the upcoming Young Rich issue out on October 25.

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When Aengus and Dimitry Tran were growing up in Ho Chi Minh City, one of the family's most treasured possessions was a computer. Sent to their father by an uncle who lived in France, it was one of the first computers in Vietnam. Their parents were high school maths teachers and, armed with this new possession, their father taught himself programming.

“He wrote the first programming book in Vietnamese, ever,” Dimitry tells *The Australian Financial Review Magazine*. “In our office, there’s a photo of my mum with Aengus as a baby next to our precious family computer – one of the most valuable things we had as a family.”

Given this start in life, it’s perhaps not surprising the brothers – Dimitry is 38, Aengus is 30 – are at the forefront of a wave of start-ups creating businesses through the real-world application of artificial intelligence. Their six-year-old company, Harrison.ai, claims to already be helping 6 million people a year via its algorithms, which improve the reading of head CTs and chest X-rays, leading to faster and more accurate diagnoses.



Dimitry (left) and Aengus Tran. “Human fertility is a perfect problem for AI,” says Aengus. **Louie Douvis**

In September, Harrison.ai also launched its own ChatGPT-esque language model dubbed Harrison.rad.1, which can read scans, identify illnesses and

respond to questions from a clinician and relay its reasoning in words. It is still being evaluated and has only been made available to select industry partners, healthcare professionals and regulators. But its future potential is enormous.

Unlike other generative AI models, it has only been trained on radiology-specific data, making it more accurate than its competitors. On one of the world's toughest certifications for radiologists, it scored 51.4 out of 60 on the exam, while other competing models, including OpenAI's GPT-4o and Microsoft's LLaVA-Med typically scored 30 or under.

Some big-name investors are already on board. Blackbird Ventures has been there from the start [<https://www.afr.com/technology/big-names-pile-in-to-back-aussie-ai-health-pioneer-with-29m-20191204-p53gwn>], investing in a \$29 million series A round in 2019. As has Li Ka-shing's Horizons Ventures, Ramsay Health Care and Kim Jackson and Scott Farquhar's Skip Capital. Sonic Healthcare and medical imaging company I-MED joined in a mega \$129 million Series B in 2021. And more are set to join. Harrison.ai has kicked off the process for its next mega raise, the *Financial Review's* Street Talk revealed in June [<https://www.afr.com/street-talk/sonic-healthcare-backed-harrison-ai-boots-up-100m-plus-series-c-raise-20240611-p5jkvr>], once again hoping to bank more than \$100 million.

The Tran brothers are in the right sector to raise money; as at the second quarter of 2024, according to PitchBook data, almost half of all venture capital investment in the US flowed to AI companies. But what they've built is almost unique – an Australian AI business that's moved from start-up to scale-up. Debutants on this year's Young Rich List [<https://www.afr.com/young-rich>] in 42nd spot with a combined \$138 million fortune, they have big ambitions. Written on the staircase in their Campbell Street headquarters in Sydney's CBD is their mission statement: to help improve the healthcare of 1 million people every single day.

The vision for Harrison.ai took shape while Aengus was studying medicine at the University of NSW. Even back then, he and his brother had entrepreneurial ambitions; together with some friends they launched a social networking and ticketing app, called Qnect 014, when they were in their 20s. The business is still running today, rebranded as Get. The brothers are no longer involved.

In 2018, Aengus, on rotation at the Sydney Children's Hospital in Randwick, heard a presentation from Simon Cooke, a scientist who specialises in IVF. He was already dabbling in AI and approached Cooke at the end of the presentation, saying he could build him an algorithm to pick out the best embryos. "I'd already started to feel that my purpose in medicine wasn't to become a cardiac surgeon, which I'd been obsessed with," Aengus says. "I saw such a beautiful problem in human fertility – it's a perfect problem for AI where a consequential decision needs to be done well, and we don't have a lot of skill and expertise at it at scale."

Aengus teamed up with Cooke's employer, Virtus Health, to develop and test the algorithm. In pre-clinical trials of 10,000 embryos from 1603 patients, the AI called Ivy selected the embryo most likely to progress to a foetal heartbeat correctly 93 per cent of the time. Despite still being in its infancy, Aengus and Virtus sold the intellectual property behind Ivy to Swedish company Vitrolife in 2019 for \$US6 million, while agreeing to collaborate on the technology for another three years.

Aengus had already been working on applying AI to different fields of medicine, and he approached Dimitry, who was then head of innovation at Ramsay Health Care, to join him. "I remember when Aengus first met Simon Cooke, that afternoon he came home, and he said 'Dimitry, I need to borrow some money to buy a GPU [graphics processing unit]', Dimitry recalls. "I asked how much he needed, and he said '\$20,000' and I said 'wow, that's serious gaming that you're doing.'" The brothers went to a gaming shop to buy the most powerful computer they could afford.

The company attracted attention from the get-go. When Dimitry resigned, Ramsay CEO Craig McNally immediately asked about investing. Next to take an interest was Sam Wong, a partner at Blackbird Ventures who'd been doing her own research into AI in reproductive health while preparing to undertake IVF herself. At the time, the public-facing side of the company was nothing more than a website with Dimitry's email address, and Aengus was still sitting his final exams. He initially palmed off Wong's attempt to get in touch.

She kept emailing, and eventually the brothers met her at their first office – a free space they were provided at a start-up incubator in Barangaroo. Wong describes the moment as “love at first sight”. “When it might have been tempting to ‘think small’ to minimise the complexity of what they were taking on, they have always chosen the harder but more ambitious path,” she says.



Aengus Tran speaks at the Financial Review AI summit in May. **Michael Quelch**

By the time of the first capital raise in 2019, the Tran brothers had already formed a joint venture with I-MED called Annalise.ai, applying its AI to X-rays, mammography and CT scans. Annalise.ai is now fully owned by Harrison.ai. Then came two years of building out the technology and doing clinical studies to show it was performing as well and better than radiologists, and then securing regulatory clearance in 40 different countries for 300 clinical indications.

Their first target market was Australia, where it's now used by around 50 per cent of the radiologists in the country, before expanding into Europe. Annalise.ai has been selected as the preferred provider by six imaging networks in the UK's National Health Service. Its solution for chest X-rays

is being used for early lung cancer diagnosis. In the US, the Food and Drug Administration has given it clearance for a dozen uses.

“We didn’t want to do a research project,” Aengus says. “We wanted to have real products in the field and make a real impact.” With that has come a major expansion of the team. The business, based in inner-city Sydney, now has 200-plus staff including former Nearmap director of AI model systems Suneeta Mall and former Macquarie Capital division director Uyi Ighodaro, who joined as CFO. Tesla’s Robyn Denholm has also joined its board.

The company is now at an inflection point where years of work building algorithms and getting regulatory clearances could soon result in significant revenue growth. The last obstacle is one of the most significant; getting insurers or payers such as Medicare on board, which requires demonstrating that Harrison.ai’s technology will save them money. Since October, a part of Harrison.ai’s Annalise Critical Care AI platform has been reimbursed by Medicare in the US – the result of almost three years of collating clinical evidence and embarking on the regulatory process. “In healthcare, everything happens slowly, and then suddenly,” Dimitry says.

Beyond developing the AI algorithms, the hardest challenge for the company to date has been winning customers. Without widespread reimbursement arrangements from insurers, many hospitals and healthcare practices must still pay out of their own pockets. “The product is incredibly difficult to build, but even harder to sell,” Dimitry says. “It took us a long time to figure out how to get that message across ... getting the very first site in any country is hard.”

Doctors, they discovered, also typically respond best to pitches from fellow doctors, or established sales people. About 97 per cent of Harrison.ai’s sales leads come from medical conferences – Dimitry attends around 30 to 40 conferences a year and has a cabinet full of lanyards to show for it. This process is slow but it pays off. “It moves like a tank. The stickiness is so

high – once you really secure the key reference account and start to expand, they're multi-year, multi-product relationships ... that are very durable.”



Harrison.ai co-founders Dimitry Tran, left, and Aengus Tran, right, with Sonic Healthcare CEO Dr Colin Goldschmidt.

In late 2021, the start-up also formed a second partnership with Sonic Healthcare [<https://www.afr.com/companies/healthcare-and-fitness/sonic-takes-strategic-stake-in-ai-health-start-up-in-129m-fund-raise-20211129-p59d6t>], forming Franklin.ai to co-develop clinical AI solutions within pathology [<https://www.afr.com/companies/healthcare-and-fitness/how-sonic-healthcare-and-a-local-ai-start-up-will-shake-up-pathology-20220630-p5axx3>]. For the last few years this has been in “incubation”, building a product to analyse prostate biopsies.

As often happens when on the cutting edge of technology, Harrison.ai has attracted controversy regarding its usage of data from its partners. In September, Crikey reported that the company’s flagship algorithm was being trained on healthcare data that patients had not expressly consented to provide.

Its chief operating officer, Peter Huynh, went on the front foot to assuage investor concerns, putting the onus back onto I-MED, saying the use of the

information was via a legal data licence agreement in place, and that questions relating to consent should be answered by the radiology network. “All data that we use for research and development arrives de-identified, cannot be re-identified, and is encrypted,” the brothers told AFR Magazine in a statement.

I-MED also released a statement on the issue [<https://i-med.com.au/articles/recent-reports-regarding-harrison-ai#gsc.tab=0>], saying the Crikey reports were inaccurate. It did not address the issue of consent, but said the data was de-identified following the “best practice frameworks developed by the CSIRO and the Office of the Australian Information Commissioner”.

The Trans count some of the country’s most successful founders as mentors, including Atlassian co-founder Scott Farquhar and Canva’s Melanie Perkins and Cliff Obrecht. One of Farquhar’s learnings has always resonated with Aengus – “the trajectory of the company is limited by the growth of the founder”.

This is something that plays on his mind. After graduating from med school and focusing on his start-up, he had a team of 10 within weeks. Months later, he had employed managers, and now within only a few years, he’s running a global business with multiple products. “It almost feels like every year I show up to work with a new job,” he says.

Ultimately, the brothers hope to replicate the success of their mentors and create an “iconic listed company like Atlassian, Cochlear or ResMed”, Dimitry says. “We are not anywhere near success yet. This is something we can invest ourselves in for many decades to come.”

The November issue of AFR Magazine [<http://www.afr.com/afr-magazine>], including the Young Rich List, is out on Friday, October 25 inside The Australian Financial Review [<http://www.afr.com/>]. Follow AFR Mag on Instagram [<https://instagram.com/afrmag/>].

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