NUSGRIP

GRADUATE RESEARCH INNOVATION PROGRAMME

RUN 5
LIFT-OFF DAY

NUS Deep Tech Start-Up Showcase

TEAMS

A Flagship Innovation Programme by:

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1cool

Team members

Daniel TAN (MBA)
CEO

Thuan BUI DUC (PhD)
CTO

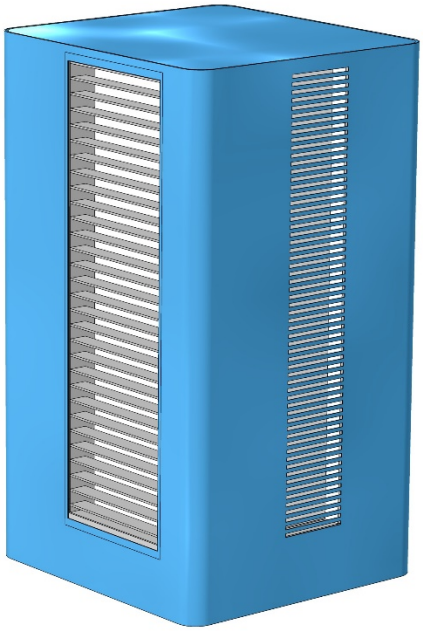
Jeffrey NAH
Commercial Champion

Roger CHEONG
Venture Dev Mngr

Grace WEE
Technology Mngr

Sustainable Cooling

Heat is a perennial problem faced by people living in the tropical and sub-tropical countries. Currently, air conditioners are widely used to tackle the heat. But they consume lots of electricity and are the most environmentally unfriendly. 1cool has developed cheaper and more sustainable cooling solutions based on our patented dew-point cooler, which can filter and cool outdoor air to near the dew point temperature without any change in its humidity ratio. Our cooling devices can be an alternative to the conventional air conditioners.



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Ailytics

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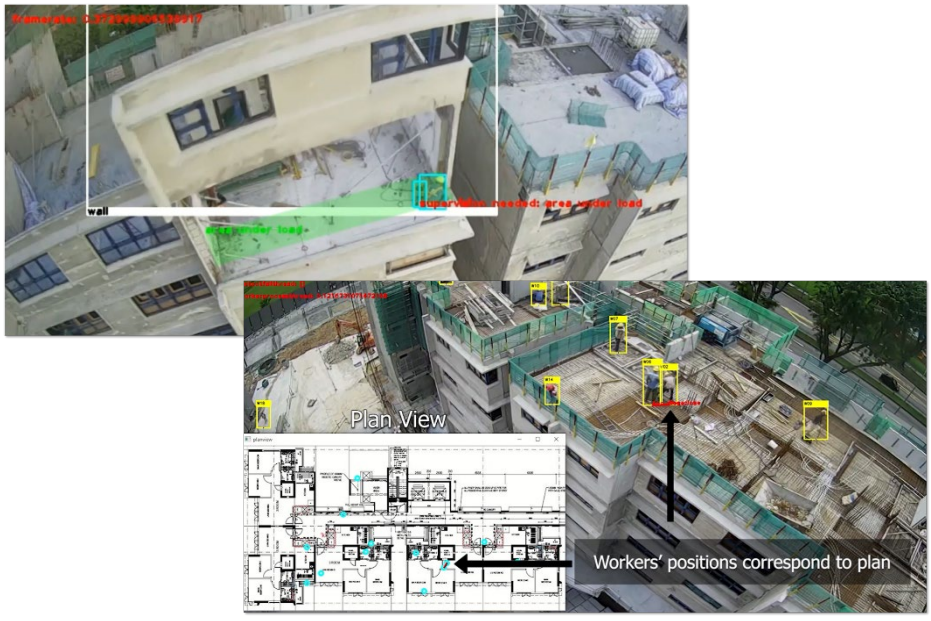
Technology Mngr

Enhancing construction operations with AI

Every year the global construction industry loses S$3.8T of value on safety related accidents and inefficiencies, mainly because current methods of monitoring construction operations are tedious, costly and prone to human errors. We are addressing this issue through our AI powered system, Ailyssa, which can tap into any CCTV feeds and leverage on computer vision to detect complex safety hazards and productivity scenarios to produce actionable insights through alerts and charts that will enable project managers and safety officers to make better informed decisions.



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Akesis Biologics

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Reliable, lifelong support for health

It is proven that gut health deteriorates as a person ages, leading to increased risk of gut diseases such as inflammatory bowel diseases (IBD) and colorectal cancer (CRC). Most supplements in the market are not proven to be effective to address this problem. Therefore, we have developed a new evidence-based gut health supplement, MastGut. It contains DUSP10 protein, which is shown scientifically to reduce CRC and gut inflammation. MastGut would thus meet the needs of all health-conscious individuals and patients with IBD and/or CRC who want to maintain a heathy gut in order to prevent the development or progression of gut diseases.

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AMBIENT SYSTEMS

Climate At Your Service

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Technology Mngr

Climate at your service

Indoor farm operators rely on conventional air conditioning and mechanical ventilation equipment to manage the indoor climate. This equipment is usually outdated and not suitable for the climate needs of modern indoor farms. Existing approaches typically rely on pre-determined schedules that run for several months at a time. At the same time, farm operators usually do not have the skillset in-house to manage multiple and sometimes competing priorities, such as balancing temperature, humidity, and ventilation requirements, along with complex building standards and guidelines.

Ambient's flagship product overcomes climate management challenges of indoor farmers through an integrated hardware-software solution. Using Ambient's patent-pending optimization methods, indoor farms can leverage the full extent of their data and latest machine learning techniques to create an optimal indoor environment specific for their crops.

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DolphinLink

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Zhiyong LAM
Technology Mngr

Better Communication, Better Care

We provide hospital Patient Bed Task Management for a small team of doctors and nurses in any department of a hospital. It targets the daily laborious and time-sensitive process of passing messages on clinical events in many often very fluid situations in the hospitals. We aim to increase the inpatient bed turnaround time for departments, increase communication efficiency between doctors and nurses, and alleviate medical errors.

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HiSEPOR

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Technology Mngr

New membrane technology for high efficient biofluid separation

In the conventional blood drawing process, patients have to visit a hospital or a clinic where an adequate volume of blood is taken by trained personnel. The whole process is inconvenient and time-consuming which involves travelling, registering, queuing and blood drawing. Our team offers a convenient blood sampling method that can be performed independently by patients at home. Our device is able to extract plasma, from which the majority of tests can be performed, passively from a few drops of blood for chronic disease monitoring and general screening. We aim to provide individualized, convenient, and cost-effective access to health monitoring and screening for the masses.

Plasma separation membrane

Dried plasma spot (DPS) card

DPS separation kit

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lalia

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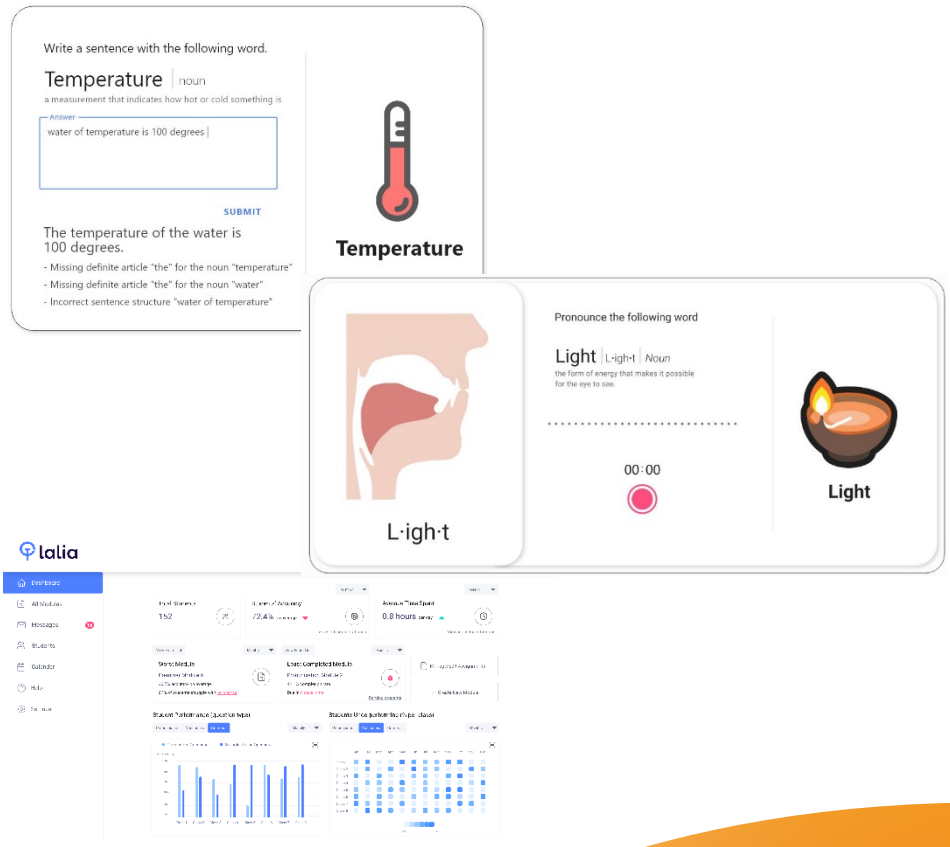
Culture-specific English Learning Platform

Lalia is the first English learning platform powered by patented cultural AI-generated feedback technology that adapts to the cultural nuances of the learner. Unlike conventional platforms that only comprehend the English language without consideration of the learner's culture, Lalia's technology can identify errors derived from the influence of the learner's native language, providing learning experiences and activities with greater freedom of experimentation and better feedback accuracy. Lalia is targeting English as a Foreign Language (EFL) countries, starting with Japan.



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MALL NAUTICS

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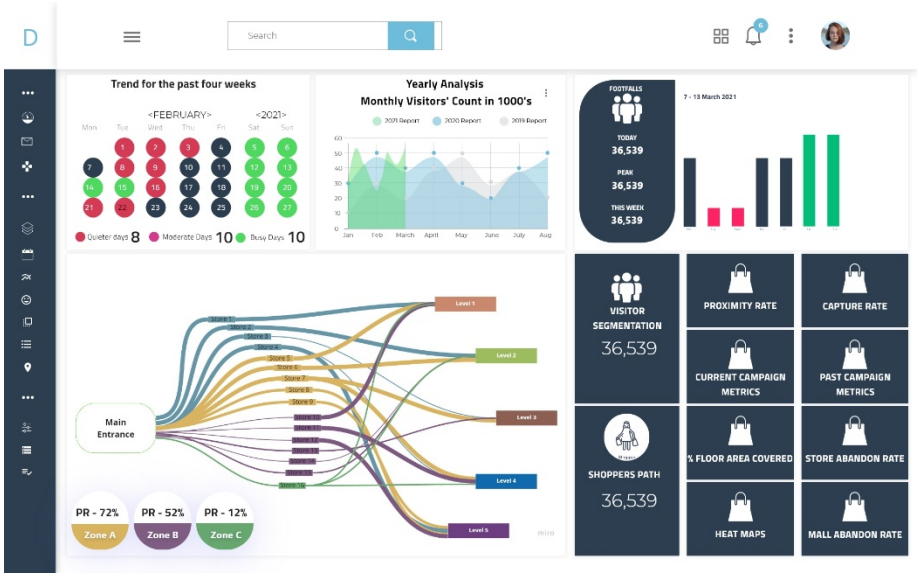
Jonathan TAN
Technology Mngr

Connect physical places to digital world

Mall Nautics is an AI-based platform that allows malls to track their shoppers' footfalls using its indoor positioning system captured through our mobile app. The platform allows malls to obtain valuable insights through the analysis of captured data. It enables them to predict future footfall, establish one-to-one engagement with shoppers and provide retailers with a solution similar to e-commerce marketplaces – to list their current offers to the in-mall crowd. The information will be communicated via our mobile app, which gives shoppers a convenient way to explore a shopping mall by recommending the path & products as the shoppers navigate through the mall.



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NEU BATTERY MATERIALS

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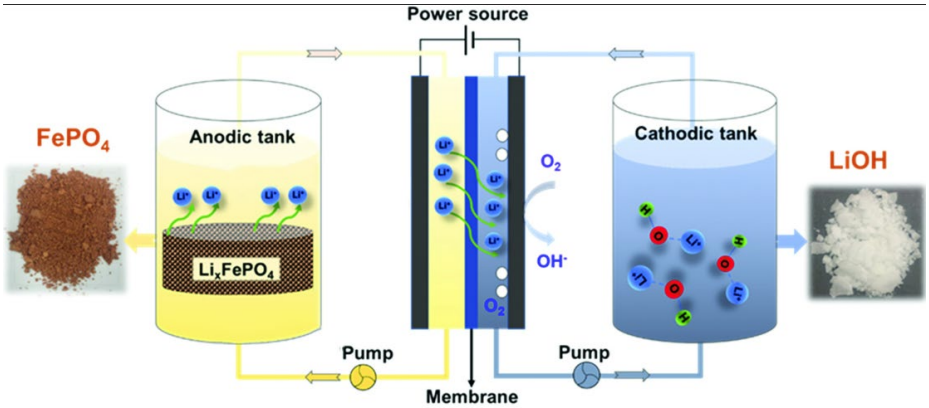
Producing Clean and Sustainable Lithium

NEU Battery Materials has a proprietary and patented electrochemical technology to recycle Lithium-Ion Batteries without the need for harsh acids and high temperatures, commonly used in conventional methods such as hydrometallurgy and pyrometallurgy. Using a regenerative solution and low energy, lithium ions are extracted to form Lithium Hydroxide. This raw material can then be made into new cathode batteries. NEU is focused on recycling Lithium Iron Phosphate (LFP) batteries as the majority of spent LFP batteries cannot be recycled economically and are often dumped in landfills, resulting in environmental pollution. NEU Battery Materials plans to extend its technology and business to recycle Nickel Manganese Cobalt (NMC) batteries in the future.



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RAPID

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Jae CHAN (BA)
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Colin CHUA
Commercial Champion

Chung-Pei OU
Venture Dev Mngr

Haujiun CHEN
Technology Mngr

We bring the lab to your farm

RAPID seeks to make a difference in the aquaculture landscape by bringing lab grade diagnostics into the rural farms of South East Asia and beyond.

In an industry where diseases alone cause huge economic and productivity losses, current diagnostics solutions are insufficient – they are too slow and expensive for daily testing, resulting in farmers being resigned to their losses.

We help reduce disease losses with our easy-to-use on-site molecular diagnostic test kit. Farmers will now be able to run daily tests on their livestock, allowing for closer surveillance, reducing losses and boosting productivity – all at a lower cost. RAPID seeks to be a reliable partner, assisting farmers with value recovery when diseases strike.

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reActo™

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Jianxiong XU (PhD)
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Olivier LEFEBVRE
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Slaven GARAJ (Asst Prof)
Advisor

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Commercial Champion

Jack SO
Venture Dev Mngr

Mun Loong CHIA
Technology Mngr

Sustainable treatment for industrial wastewater

Every year, Industries produce more than 70 billion tons of wastewater with persistent organic pollutants (e.g. drug residues, pesticides and dyes). This industrial wastewater is either incinerated or improperly treated and discharged, resulting in devastating effects on the environment and our health. Our patented technology integrates graphene and electrochemistry, two disruptive technologies from two world-leading research centres in NUS, to offer a sustainable solution to fully decompose persistent organic pollutants on-site and with NO residues. ReActo solution enables Companies to safely discharge their wastewater and save 50% of their treatment costs.

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RO+
AUTOMATE YOUR FUTURE

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Phone May KHIN
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Qian Qian HAN
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Wee Jin TAN
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Roger CHEONG
Venture Dev Mngr

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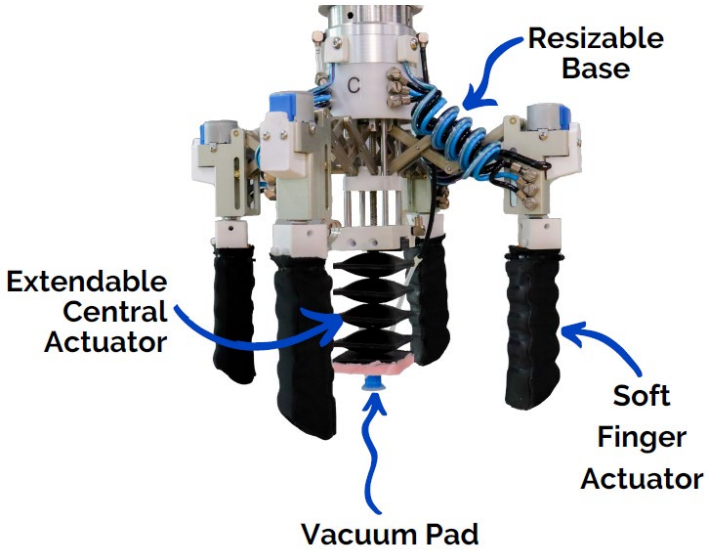
Intelligent Automated Solutions for Next-Gen Gripping Applications

Founded by a team of dedicated engineers, RoPlus aims to provide smart automation solutions to manufacturing industries and e-commerce sectors. Integrating hardware and software, we offer end-to-end solutions which are catered to tackle challenges faced by our customers.

Current state-of-the-art grippers are not optimized to manipulate a diverse range of products in different shapes and packaging materials. Our multifaceted soft robotic gripping systems are best suited for working in cluttered environment such as bin picking and handling non-standardized products. We aim to be a one-stop solution provider for next-gen automation.

UnisoGrip™



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SPACE MATCH

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Jia Yi LEE (BSc)
CBO & Co-Founder

Clayton MILLER (Assist Prof)
Chief Scientific Officer (CSO)
& Co-Founder

Andeed MA
Commercial Champion

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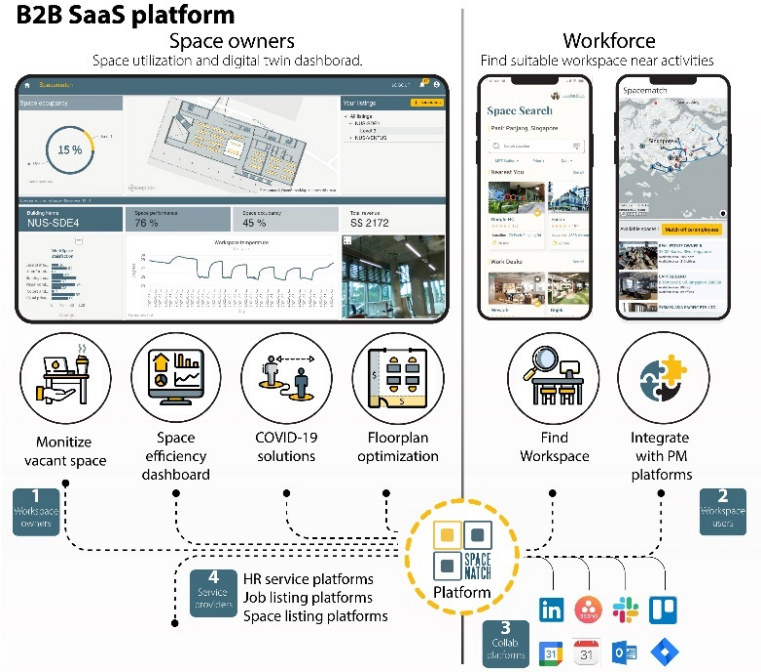
Venture Dev Mngr

Jonathan TAN
Technology Mngr

Driving a new era of flexi-working

The urgency for a decentralized office has been intensifying with COVID-19, and SpaceMatch solves that problem.

Through the use of artificial intelligence, SpaceMatch matches employees looking to work remotely near home, with host companies hoping to lease their unutilized office space. Our dynamic matching technology is based on a comprehensive profiling of the user and host offices, ensuring synergy from the match. Upon listing, host companies can manage their listed assets and monitor its performance on our space utilization dashboard. With SpaceMatch, empower your employees to work anywhere productively.



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VILOTA

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Yingcai BI (PhD)
Tech Advisor

Alex THAM
Commercial Champion

John PHILLIP
Venture Dev Mngr

Jonathan TAN
Technology Mngr

Cynthia DUAN
Technology Mngr

Visual Spatial Sensing for a Smarter World

The adoption for autonomous mobile robots (AMR) has increased rapidly in recent years, with projected compound annual growth of around 22% in market revenue. However, limitations faced by AMRs due to the lack of vision-perception ability (eyes to perceive) and cumbersome software integration remain unaddressed.

Our patent-pending vision-based 360-degree sensor (OmniSense) allows AMRs to capture and process high-quality visual data via distributed edge compute architecture in real-time. This enables robots to seamlessly navigate across highly dynamic, both indoor and outdoor environments, even with the absence of GPS. With this ability, mobile robots are able to perform more reliably, raising efficiency and productivity for businesses. Also, due to OmniSense's versatility, it can be mounted on static infrastructures to enable vision-related tasks such as tracking object movement.

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VIRTUAI

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Zhi Kai WONG (BA)
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Sok Ying LIAW (Assoc Prof)
Advisor

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Commercial Champion

George HAN
Venture Dev Mngr

Ziying YUAN
Technology Mngr

Advancing Healthcare Virtual Simulations

VIRTUAI endeavours to revolutionise healthcare training by eliminating inefficient physical simulation. This yields a promising S$4.9 billion market. An integrated platform that incorporates virtual simulation with artificial intelligence and analytics enables the global community of healthcare learners and trainers to share knowledge in a secured environment. Our technology auto-populates virtual scenarios and environments with document uploads and augments assessment rubrics using trainers' data. We offer a library of curated and customisable medical scenarios which are self-directed, repeatable, and accessible 24/7. Hence, optimising costs and manpower by more than 90%. Performance analytics offers personalised recommendation for learners and guides stakeholders in decision-making.

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Download
All Teams Factsheets

http://bit.ly/R5LOD-factsheets

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GRADUATE RESEARCH INNOVATION PROGRAMME

THE FLAGSHIP INNOVATION PROGRAMME

by NUS Industry Liaison Office enabling NUS postgraduate students and researchers to develop commercially viable and investible deep tech start-ups

About NUS GRIP

Launched in October 2018, the NUS Graduate Research Innovation Programme (NUS GRIP) is the Industry Liaison Office's flagship innovation programme. Based on our extensive experience working with deep technology, the programme will provide step-by-step guidance to NUS postgraduate students and researchers to cultivate deep tech entrepreneurs, to transform the university's world-class research into their own deep tech start-ups.

Twice a year, 25 teams are selected from the best and brightest NUS researchers and postgraduate students to equip them with entrepreneurial skills and experience.

For the duration of one year, teams will undergo a transformation journey through a series of workshops, mentorships, industry linkages and incubation support, to develop commercially viable and investible deep tech start-ups. NUS will invest up to S$100,000 in start-ups demonstrating high commercial potential to accelerate their growth. We are committed to take in 50 teams a year, generating a pipeline of up to 250 teams in five years.

Find out more at http://nus.edu.sg/grip/

Connect with the teams gripventures@nus.edu.sg

NUS INDUSTRY LIAISON OFFICE

The NUS Industry Liaison Office (ILO) is the technology translation and commercialisation arm of the National University of Singapore (NUS). Over the last five years, ILO has played a pivotal role in getting more than 740 patents granted and more than 130 technology-based companies spun off from the NUS.

NUS National University of Singapore | Industry Liaison Office

More than **740** Patents Granted

More than **130** Tech Company Spin-offs from NUS

Through innovative programmes delivered in a customer-centric manner, ILO provides funding, connections and expertise to students, researchers and professors, whether they are seeking to create a spinoff company or partner with established industry players to translate their innovations into the market place.

The ILO team comprises of technical, business and legal expertise that commercialises any technology-based opportunities.

NUSGRIP

GRADUATE RESEARCH INNOVATION PROGRAMME

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