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Using robotics to make cleaning a breeze

NEA-Industry scholar Danish Sirhan Zulkifli wants to ease the burden on cleaners while changing perceptions of the industry

TEXT BY **BRYANT CHAN**

B uilding and creating things has always been a big part of Mr Danish Sirhan Zulkifli's life. Some of his fondest childhood memories were spent assembling lkea furniture with his father, and helping out with DIY maintenance and repairs at home.

He started small, simply handing over pegs and screws. But as he grew older, his father began entrusting him with more of the heavy lifting, eventually getting to the point where he was doing the majority of the assembly work.

Knowing that he was making something independently, as well as making something useful, filled him with a sense of accomplishment – and ultimately spurred him on to pursue his studies in the field of engineering, just like his father had before him.

A HELPING HAND

Mr Danish enrolled in the Mechanical Technology Nitec programme at ITE College East in 2019.

There, he learnt more about how machinery worked, the equipment required in his line of work, methods of assembling and disassembling machines, how to maintain them, and how to utilise computer-aided design and drafting tools.

"In my spare time, I also did more research about robotics and automation, knowing that it's being used more frequently now to help ease the burden for those working in physically demanding industries such as cleaning," says the 19-yearold, who enjoys helping his parents with household chores.

At home, Mr Danish began to notice that his father's hands were not quite as steady as before and he was struggling to lift heavier furniture by himself. The realisation that his parents were getting on in years hit him, making him think about how else he could help make their lives easier.

"When I shared these thoughts with my ITE lecturer, he encouraged me to apply for the NEA-Industry Scholarship, through which I could later build a career in a field that I am passionate about," he recalls.

Upon receiving the scholarship, which would help pave the way for aspiring candidates to join the fast-evolving environmental services industry, Mr Danish was attached to cleaning services provider RS Facilities Services as a technician last year.

A DESIRE TO SPARK CHANGE

During his five-month internship, he was responsible for the daily inspection, repair and maintenance of the company's autonomous cleaning robots that were deployed to various locations.

Through his interactions with the cleaning staff, Mr Danish soon learnt that many of them found their daily



Mr Danish Sirhan Zulkifli hopes to use his passion and knowledge to positively impact the environmental services industry. PHOTO: FRENCHESCAR LIM

tasks tedious, repetitive and highly labour-intensive.

"Most of them are elderly, so I really empathise with their struggles. Seeing my own parents ageing as well, my mindset shifted from simply making things, to wanting to make things that would help others," he says.

Many cleaners also feel that their jobs are being looked down upon, despite playing a key role in keeping public areas clean. "Furthermore, many of them are not in the best of health, but they still have to work from morning till night," adds the youth, who has a soft spot for them.

However, their circumstances also present an opportunity. As the cleaning industry steadily modernises, he foresees that not only will tasks become automated – significantly reducing the cleaners' workload – but perceptions of the

I'm very excited to help cleaners experience the benefits of robotics, so that they don't have to do so many labour-intensive tasks in the future. It's my way of contributing towards a better world for all.

profession will also shift over time.

Due to his good academic grades, Mr Danish was able to skip two years of his Nitec programme, and enrolled in Temasek Polytechnic's Common Engineering Programme in April this year

He hopes to explore further opportunities with RS Facilities Services after graduation.

"I'm very excited to help cleaners experience the benefits of robotics, so that they don't have to do so many labour-intensive tasks in the future. It's my way of contributing towards a better world for all," he says.

■ Visit nea.gov.sg/esitm-nis for more information.

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An un for Miller to the way of the Moderation of

▲ MOE planning officer Chloe Lim enjoys taking on multiple portfolios and contributing to the development of a well-rounded education for future generations. PHOTO: FRENCHESCAR LIM

Discovering a natural talent for teaching

An unexpected career path led to a most rewarding journey for MOE scholar Chloe Lim

TEXT BY JO-ANN HUANG

nlike many of her peers, she did not grow up wanting to be a teacher. Life, however, had different plans for Ms Chloe Lim.

The 27-year-old credits her former teachers at alma mater Victoria Junior College for helping her to explore possibilities when she was invited to teach her pet subject English Literature during a relief teaching stint with the school in 2014. "It was during this time that I realised how much I enjoyed teaching, and how fulfilling it can be," she says.

Seeing this as a meaningful career path opening up for her, she applied for the Ministry of Education (MOE) Education Merit Scholarship. After acquiring a bachelor's degree and master's degree from the

and 2018 respectively,
Ms Lim went on to
pursue a Postgraduate
Diploma in Education
(Secondary) at the
National Institute of
Education, graduating

University of Oxford in 2017

in 2020.
She is glad that her foray into teaching happened the way it did. She explains: "There is a common narrative that paints teachers as

of others.

selfless individuals who have always known that teaching is their calling. But that's a one-dimensional view and does not apply to everyone. I've grown to love my work more with time and that, to me, is a much more rewarding journey."

After a two-year posting as an

English Language/Literature teacher at Presbyterian High School, Ms Lim joined MOE's Education Policy Branch, Planning Division, as a planning officer earlier this year. Her duties include assisting in the formulation and review of pre-school education policies.

She hopes to incorporate the valuable insights she gained as part of her overseas scholarship experiences in her work. While studying in the UK, for instance, she volunteered with a charity that provides English Language home tutoring for underserved communities and was paired with a Somalian refugee for a year.

"Connecting with her allowed me to learn about her home life and culture, and taught me to empathise with those whose first language isn't English," she says.

During her internship at a public school in New York, she also got to observe a different education system in action. "Classes there are based on ability rather than age group. That was eye-opening as it showed me alternative ways of conceptualising teaching groups, and the importance of keeping an open mind."

A SUPPORTIVE CULTURE

Since starting her career, Ms Lim is grateful for the support she receives from her organisation, such as when she was trialling e-pedagogy during the Covid-19 pandemic.

Home-based learning was a challenge at first as she had to learn to work with children with additional learning needs and those who could not connect with her because they

had never met her in person. But with encouragement from her peers and perseverance on her part, she managed to forge a connection with her class.

To those who hope to follow in her footsteps, Ms Lim says: "Teaching requires a lot of commitment, but what helps me reaffirm my purpose when work gets overwhelming is knowing that it is part of a larger mission to improve the lives of others."

■ Visit moe.gov.sg/careers/teachingscholarships-sponsorships/educationmerit-scholarship for more information.

MULTIPLE PATHWAYS

MOE offers three career tracks: the Teaching Track where teachers can hone their expertise in pedagogy; the School Leadership Track for those who are keen to contribute to the effective management and leadership of schools; and the Senior Specialist Track for teachers who are inclined towards more specialised areas in

educational development.

As a scholar, Ms Lim is also able to take on a variety of portfolios. "Our industry is not just about teaching. In areas such as policymaking or operations, there are many people working together to create a conducive learning environment for our young people," she says.

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ADVERTORIAL

People at the Heart of Policing

Whether it is keeping our neighbourhoods safe or shaping new legislation to fight crime, police work is about having a heart for the community, says DAC Sergius Wat

ake no mistake - policing is about people, says Deputy **Assistant Commissioner** of Police (DAC) Sergius Wat. After all, it was the men and women in the Singapore Police Force (SPF) who first inspired him to choose the profession.

After receiving the SPF Book Prize Award in junior college, he was invited to visit different Police units, where he was struck not only by the varied and meaningful work done by the officers, but also by their strong camaraderie and sense of purpose.

"I was impressed by how the officers worked closely together to support the SPF's mission of keeping Singapore safe and secure," he recalls, the memories still fresh after all these years.

The men and women in blue continue to inspire him, 12 years after he became an officer himself.

Throughout his various postings, DAC Wat takes pride in fighting crime alongside his fellow officers. "We all want to solve the case and ensure that justice is done," he says. "That brings everyone together in pursuit of a common goal."

PARTNERING THE COMMUNITY TO FIGHT CRIME

DAC Wat is also encouraged by how the community works together with the Police to keep Singapore safe.

He greatly appreciates the strong public support for the SPF's work. He cited the Vehicles-On-Watch initiative that was launched during his time as the Commanding Officer of Pasir Ris Neighbourhood Police Centre (NPC) as one example of this - in the event of a crime, residents will share footage from their in-vehicle SAFEGUARDING SINGAPORE cameras with the Police, to assist in investigations.

"We started this programme as a local community partnership to deter and solve thefts, and it was gratifying to see many members of the public step forward and contribute their time and resources," he says.

The Vehicles-On-Watch initiative has since been rolled out island-wide.

PROTECTING THE VULNERABLE

Policing is also about people, as officers need to have empathy for every individual they meet, whether victim or offender, adds DAC Wat.

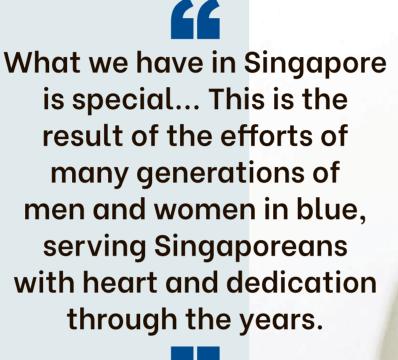
He explains: "An important aspect of police work is understanding the reasons that led a person to run afoul of the law in the first place. We need to address the underlying social needs, even as we enforce the law."

While officers are called upon to be firm and fair in what they do, they need to temper justice with compassion, he adds, and not just discharge their duties dispassionately.

When he was an Investigation Officer, he was especially moved by the plight of those who attempted suicide, and the unfortunate circumstances that led to the person deciding to take his or her life.

This made DAC Wat realise that for someone in these circumstances, the focus should be on ensuring that they can obtain the necessary help and support, instead of subjecting them to the criminal investigation process.

During his posting to the Policy **Development Division of the Ministry** of Home Affairs in 2016, it was particularly meaningful for him to work on a review of Singapore's Penal Code and other legislation, to enhance protection for the vulnerable. One of the key legislative changes



DAC SERGIUS WAT RECIPIENT OF THE SPF SCHOLARSHIP

arising from the review was the decriminalisation of attempted suicide. These changes came into effect on Jan 1, 2020.

"My policing experience on the frontline helped inform the policies that I worked on, and gave me the confidence that policy and legislative changes can result in positive change," says DAC Wat.

FOR TOMORROW

"What we have in Singapore is special - feeling safe when we go out at night; not needing to worry about our children taking public transport on their own," says the father of a twoyear-old son.

"This is the result of the efforts of many generations of men and women in blue, serving Singaporeans with heart and dedication through the years, and building up and safeguarding the public's trust in

the Police." He explains: "I want to keep this home where we live, work and play safe for the next generation."



A MEANINGFUL CAREER

A recipient of the President's Scholarship and SPF Scholarship, DAC Wat graduated from Harvard University with a Bachelor of Arts in Government and a Master of Arts in Regional Studies (East Asia).



DAC Wat delivering a statement on Singapore's stance on crime and drugs at the United Nations General Assembly in 2015. PHOTO: UNITED NATIONS GENERAL ASSEMBLY

In 2011, he entered service as an Investigation Officer with Tanglin Division, and later served as an Operations Officer in the Criminal Investigation Department. He was appointed the Commanding Officer

of Pasir Ris NPC in 2014. Between 2016 and 2018, DAC Wat served as Assistant Director in the Policy Development Division of the Ministry of Home Affairs, and took on the role of Assistant Director in the SPF's Operations Department in 2019. He assumed his current post as Deputy Commander of Jurong Police Division in 2020.

Throughout his 12-year career, he has had many opportunities to develop leadership skills through different postings.

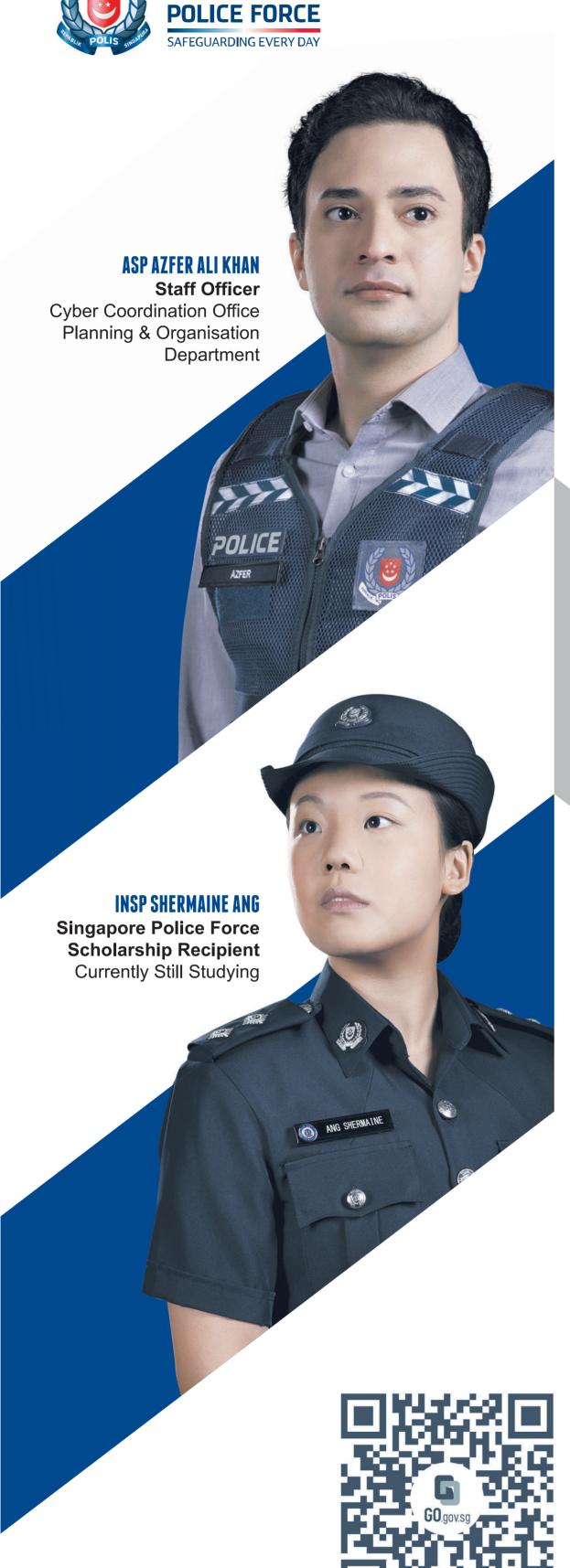
HIS CAREER HIGHLIGHTS INCLUDE:

- · Representing Singapore at the United Nations General Assembly in 2015, during which he delivered a statement explaining Singapore's position on issues pertaining to crime and drugs
- Serving in security deployments during key national events such as National Day celebrations, General Elections and the South-east Asian Games in 2015
- Contributing to a review of the Penal Code and other legislation in order to enhance protection for the vulnerable; these changes came into effect in January 2020
- Planning and coordinating Police operations to ensure law and order during the Covid-19 pandemic, in order to support our national response to the virus

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Engineering undergrad RK Suriya Varshan's fruitful internship with HTX cemented his passion for robotics

curious kid growing up, Mr RK Suriya Varshan would often tinker with household items such as TV remotes and mini fans, taking them apart whenever they stopped working to fix them – an interest he picked up from his father.

To develop this fledgling passion further, Mr Varshan enrolled in a diploma course in Mechatronics at Temasek Polytechnic. The course equipped him with skill sets in areas such as engineering, robotics and advanced automation technologies.

NURTURING HIS CAPABILITIES

In his final year in poly before his graduation, he interned at HTX's Robotics, Automation & **Unmanned Systems (RAUS)** Centre of Expertise.

A statutory board under the Ministry of Home Affairs, HTX (Home Team Science and Technology Agency) develops scientific and engineering innovations and solutions for

Singapore's homeland security. Mr Varshan assisted the RAUS team in developing robotics solutions for various Home Team departments. He was involved in ideating and prototyping products, and ensuring that they meet the needs of Home Team operations.

He reflects: "We hardly think about how things around us are connected to robotics. But even our kitchen tools and consumer electronics have view and record live video feeds automated parts – the machine knows when to go, when to stop. Robotics is the basis for a lot of things in our life today."

One of his achievements was

Committing to a scholarship is not daunting at all if you're willing to follow your passion. work hard and maintain a positive attitude.

MR RK SURIYA VARSHAN Recipient of the PSC Scholarship (Engineering) Paired with Home Team Science and Technology Agency(HTX)



completing a prototype of a cameramounted and remote-controlled Mecanum wheel platform, which is an omni-directional wheel design for a land-based vehicle. This would enable Home Team officers to more effectively as the robot can manoeuvre in multiple directions in tight spaces.

He spent three months building the robot prototype from scratch,

and had the flexibility to map his project milestones, including setting his own deadlines to complete his circuit design, assembly and coding.

During that time, his supervisors and colleagues were always there to support and guide him - especially when he encountered obstacles. 'This gave me a strong sense of ownership, and more confidence to explore and come up with solutions to my problems," he says.

He found the experience at RAUS so fulfilling that he extended his internship from five to nine months.

VALUABLE SKILLS

It is fulfilling to work

and interact closely with (Home Team officers) to understand

and experience their work, and find ways to help them succeed in their jobs."

> MS LEONG HIN FONG Senior Scientist, Human Performance at the

Human Factors and Simulation

Centre of Expertise at

Home Team Science and Technology Agency

(HTX)

The 24-year-old, who is currently a second-year Engineering Product Development undergraduate at the Singapore University of Technology and Design (SUTD), had acquired industry-specific skills and knowledge from his internship.

These have come in handy for his university projects.

He says: "I was able to apply the Mecanum algorithm that I picked up in a robotics competition, Roboclash 2022, where I designed a robot that could collect cubes while manoeuvring through obstacles." His team came in second in the competition.

More importantly, he adds, the energetic pace at which projects are being developed at HTX also motivated him to want to constantly upgrade his skills. In May last year, he had the opportunity to present his innovations at TechXplore, HTX's showcase of technologies and innovations, and speak to Home Team officers on what they do and learn about other projects involving robotics.

Beyond honing his technical skills, his internship at RAUS had also helped the selfprofessed shy student to come out of his shell. No surprises why he chose HTX as his parent agency when he was awarded the Public Service Commission (PSC) Scholarship

(Engineering) last year. "Everyone looks out for one another here," he shares. The familial environment at the organisation is another reason why he chose HTX, and looks forward to working there when he graduates.

His advice to STEM talents in search of a scholarship: "Committing to a scholarship is not daunting at all, if you're willing to follow your passion, work hard and maintain a positive attitude."

Unlocking human potential and enhancing performance

HTX scientist Leong Hin Fong uses data and tech to improve the operational efficiency and safety of Home Team officers

he has donned bullet-resistant vests and bunker gear, zipped around in watercraft at high speeds, and even tried fighting fire and firing arms. These thrilling activities are not normally part of a scientist's job scope, but Ms Leong Hin Fong is not an ordinary scientist.

Armed with first-class honours in Sport Science and Management from Nanyang Technological University, the 30-year-old is the research and development (R&D) lead for human performance at HTX's Human Factors and Simulation Centre of Expertise. She has been part of the R&D Team since HTX's inception in December 2019.

A CRUCIAL ROLE IN **EMPOWERING FRONTLINERS**

As a human performance scientist, Ms Leong gets to "marry science, data and technology" to develop solutions that not only enhance the safety and well-being of Home Team frontline officers such as policemen and firefighters, but also optimise their performance.

For example, her team develops predictive models to forecast the performance of the officers, as well as customise novel training programmes for them. She also works on proof-of-concept projects to predict and prevent common injuries among frontline officers to help improve career longevity.

DEVELOPING REAL-WORLD SOLUTIONS

One of Ms Leong's career highlights is setting up and co-managing the recently launched Emergency Responders' Fitness Conditioning & Enhancement Lab (EXCEL), which is jointly developed by the Singapore Civil Defence Force and HTX. The R&D and training facility enhances the performance and capabilities of emergency responders across the Home Team through the use of cuttingedge technology.

EXCEL has five purpose-built labs with distinct research thrusts, but draws heavily on applied exercise science - in particular, biomechanics, exercise physiology

and thermal physiology. One of the labs is STRiVE (Strength, Conditioning & Rehabilitation in Virtual Environment), an advanced biomechanics lab that enables the study of human movement and collection of

objective human performance data in interactive virtual environments. It can also simulate realistic operational situations in training and evaluation of the officers.

Ms Leong, who now leads EXCEL's R&D efforts, also plays a key role in developing acclimatisation programmes under the Heat Acclimatisation and Thermoregulation (HEAT) Lab. Within an environmental chamber, her team can assess the operational fitness of firefighters across various scenarios

- such as when carrying fire hoses or casualties, climbing ladders and stairs, as well as when conducting a

comprises a variety of vocations, each with its unique requirements and training needs, there is no onesize-fits-all approach or solution. That challenge, which requires her to have both depth and breadth of knowledge in her work, as well as its purposeful nature, keeps her motivated.

She adds: "I have a soft spot for

Home Team officers since they put their lives on the line every day to keep Singapore safe. It is fulfilling to work and interact closely with them to understand and experience their work, and find ways to help them succeed in their jobs."



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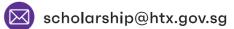
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Mr Francis a Smart Mobile Manipulator programmed and wired, wants did not "excel in academics to know that it is possible to achieve your dreams. PHOTO: If I had given up then and believed that university wasn't meant for me, I wouldn't have put in the effort to press on. It was through hard work and perseverance that I managed to achieve results.

How he's making a mark on his own terms

SIT scholar Francis Swee proves that perserverance and a growth mindset make it possible to overcome initial setbacks

TEXT BY **EMMY ABDUL ALIM**

f Mr Francis Swee had taken his O-level results at face value, he would not be where he is today. He is close to completing his engineering degree and kicking off his career at a multinational company as a software engineer.

In 2013, when he first received his results, he immediately thought that

Scoring an E8 for English meant that he could not apply for any of the polytechnic courses. But when Nanyang Polytechnic granted him entry on the condition that he improve his English grade during his diploma programme in Mechatronics, he knew he had been given a chance to turn his academic fortunes around.

gave him the confidence to apply for a scholarship at his university of choice, Singapore Institute of Technology (SIT), in 2018.

Today, Mr Swee, an SIT Scholar, is graduating with a Bachelor of Engineering in Systems Engineering (ElectroMechanical Systems). This four-year direct honours programme has since been renamed Bachelor of Engineering in Mechatronics Systems. "I decided to apply for the scholar-

> ship as a way to show others that just because you didn't get the grades required to get into the schools of your choice doesn't mean you can't get ahead later in life," he shares.

"If I had given up then and believed that university wasn't meant for me, I wouldn't have put in the effort to press on. It was through hard work and perseverance that I managed to achieve results."

BEYOND ACADEMICS

Having discovered a preference for practical, hands-on lessons while at polytechnic, the 26-year-old gravitated towards SIT, which specialises in applied learning and equipping students to integrate knowledge and skills in the real world.

During his studies, he also learnt that being a scholar not only meant maintaining good grades, but also developing the skill sets required to become an effective future leader. To help him flourish in that area, he was given opportunities to attend professional development workshops, such as for communication skills, and motivational tea sessions with guest speakers.

In his third year, he spent eight months on attachment with information and communications technology firm AIT Technologies for the Integrated Work-Study Programme (IWSP), designed to prepare undergraduates for the working world.

There, Mr Swee found that he had even more to learn. "During my IWSP, I took the opportunity to practise a 'growth mindset' when I had to pick up new programming languages or develop software I was unfamiliar with. I saw it as a way to grow and acquire skills that could be important or could come in handy one day."

A PROMISING FUTURE

While his path to university was not "smooth sailing", the road ahead looks bright.

Recalling a time at poly when he and a teammate built a "social robot" called Ruth to interact with seniors living alone, Mr Swee says that was when he knew he wanted to use his interest and expertise for good.

"Back when we were developing Ruth, we were unable to make her move around the house," he says. "Now, armed with more knowledge and experience, I can enhance my designs with more autonomous features."

Later this year, Mr Swee will embark on a career with multinational information technology company NCS as a software engineer.

He adds: "With my skill sets, I hope to be able to contribute to the community and help to lighten people's loads."

■ Visit singaporetech.edu.sg/ admissions/undergraduate/ scholarships/sit-scholarship for more information.



In for the long haul

Occupational therapist Aaron Chong is always ready to embark on a rehabilitation journey with his patients

Community Care Sector enables occupational therapist Aaron Chong to forge a his patients and on the road to

Working in the recovery. PHOTO

TEXT BY **EMMY ABDUL ALIM**

ccupational therapy was not a calling that Mr Aaron Chong had expected to embrace.

But the curiosity of the 28-year-old was piqued when he was a cancer research technologist at Singapore General Hospital and met some occupational therapists during an orientation programme.

He was so inspired by their work that he set out on a "quest" to learn about the profession. He did a jobshadowing stint with an occupational therapist for two weeks at Tan Tock Seng Hospital in 2017, and later took on a role as a rehabilitation care assistant at Kwong Wai Shiu Hospital (KWSH).

"These experiences helped confirm what I really wanted to do and led me to pursue my studies in Occupational Therapy at the Singapore Institute of Technology (SIT)," he recalls.

His "leap of faith" was rewarded when he received the Agency for Integrated Care's in-service Community Care Manpower Development Awards in 2018. The award sponsored his four-year degree programme at SIT.

A JOB WITH PURPOSE

The sponsorship was also what Mr Chong needed to give his family assurance on his choice of career.

"My family had some initial misconceptions about what the job is about, what prospects occupational therapists have and whether it would lead to a profession in the future," he says.

He did, however, note that occupational therapy is generally less understood compared with physiotherapy, which is related to body functions and can be applied to many different purposes.

"In occupational therapy, our goal is to help people perform all types of activities - not just work-related - that keep them occupied. We focus on making sure they are able to perform activities of daily living such as dressing, showering, toileting and feeding as well as leisure activities they enjoy.

"It's about enabling others to do the things that give them meaning in life - and that gives me a sense of purpose too."

He shares an example of an elderly patient with dementia whom he worked with for a month during his clinical placement in the hospital.

Because of his condition, the patient was not able to participate in the activities he used to enjoy, but through Mr Chong's therapy interventions, he was able to make a slow return to some of his daily activities such as reading the papers and doing jigsaw puzzles.

IN IT FOR THE LONG RUN

Working in the Community Care Sector gives Mr Chong more time to serve the posthospitalisation rehabilitation needs of every patient.

He likens the process to a "marathon" during which patients normally need a longer duration of care – in contrast to a "sprint" in an acute hospital setting where patients are discharged after short-term treatment.

The time with his patients allows him to build rapport with them and personalise their therapy plans, including taking into account their home and work situations.

Recalling a patient who had to work from home after a fall, he says: "We had to simulate her workstation at home, shifting furniture around in our rehabilitation

gym so that she could practise strategies in managing her condition and continue working from home."

Since joining the Community Care Sector in May as a full-time occupational therapist with KWSH, he is even more aware of how transformative the profession is.

"My patients' performance, their participation in the therapy process and their satisfaction is what gives the job its rewards," he says.

But even as he keeps his patients' needs in mind, Mr Chong knows it is also crucial to prioritise his

self-care - something that he has learnt from a supervisor.

"To be wholly altruistic could spell burnout," he says.

"Based on my experience, my advice is to treat your patients as good friends so that you can strike a balance between idealism and pragmatism, and make it a point to care for yourself before caring for others."

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Scholars' Choice 2022: Part 4

Sparking change through storytelling

The Straits Times science and environment correspondent Audrey Tan hopes to inspire more people to care about the environment and other sustainability issues

TEXT BY MARIANNE TAN

isdom begins in wonder" is a quote often attributed to ancient Greek philosopher Socrates – and is something that has resonated deeply with journalist Audrey Tan.

This keen curiosity about the world around her, coupled with a great love for animals, was what inspired her to become an avid advocate for animal welfare and environmental issues.

At age 20, she got a puppy from a puppy mill, but it came riddled with illnesses, such as kennel cough and parasites.

Ms Tan says: "His condition prompted me to read up about the horrible conditions in the mills. That was what later got me involved in volunteering with NUS PEACE (People Ending Animal Cruelty and Exploitation) and Mercylight Animal Rescue and Sanctuary Limited."

A voracious reader of National Geographic, she also found herself drawn to the publication's coverage of lesser-known aspects of nature.

Inspired to pursue a journalistic career, she then applied for, and was awarded, the Singapore Press Holdings (SPH) Journalism Scholarship for her undergraduate studies in social sciences. Upon graduation in 2013, she joined The Straits Times (ST) and was assigned to the environment beat.

Today, the 32-year-old is the publication's assistant news editor as well as its science and environment correspondent.

According to Ms Tan, when she first started as an environment reporter, climate change and sustainability were hardly the hot button topics they are now.

"At the time, many people advised me to switch beats for 'prominence'. It was discouraging," she says.

"Thankfully, I could pursue my passion at ST."

In 2018, she decided to enrol in the Master of Advanced Studies in Climate Science and Policy at Scripps Institution of Oceanography in San Diego, California, one of the world's leading centres for global earth science research and education.

"Climate science and policy was an area that was not really talked about then, but I had a feeling it would soon change," she recalls. Her studies were sponsored by a second SPH Journalism Scholarship.

That would prove to be particularly prescient when, just a year later, Prime Minister Lee Hsien Loong reiterated in his National Day Rally speech the importance of Singapore contributing to global sustainability efforts. In 2021, the Singapore Green Plan 2030 was launched to help chart the Republic's way towards a more sustainable future and help fulfil its commitments under the United Nations' 2030 Sustainable Development Agenda.

CREATING AWARENESS

Over the course of her work, Ms Tan has travelled extensively to put together investigative pieces on the illegal wildlife trade in the Golden Triangle in South-east Asia and the El Nino climate phenomenon, and covered events such as the 24th Conference of the Parties (COP24) to the United Nations Framework Convention on Climate Change.

One of the biggest challenges of her job continues to be about finding ways to get more readers to care

about global issues.

"Compared with other countries, Singapore is not as affected by climate change as it has the resources to generally adapt to it. So, we experiment with presenting stories in different formats such as cartoons and podcasts, or linking climate change to issues we care about, such as how it affects the food we eat," she explains.

She is particularly proud of the Green Pulse podcast series, which she kick-started in 2018, covering COP24 using just her mobile phone.

HOPE FOR THE FUTURE

Climate change coverage is not all doom and gloom though, Ms Tan is quick to emphasise. Having interviewed scientists and conservationists who are making a difference, as well as young people who are actively speaking up about sustainability, she sees a glimpse of hope ahead.

Says Ms Tan:
"Systemic change needs
to happen, but I also
believe it is important to
highlight how the individual
can contribute, so we do not
feel disempowered."

To future journalists looking to make an impact, she offers the very same Socrates quote that continues to inspire her after all these years, adding: "Writing is just a small part of the job – you need to have wonder for the world and the people around you, so you are always hungry for more knowledge."

■ Visit https://bit.ly/3wxOPUa for more information.

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In recognition of her role as a voice for only one world and the people around you, so you are always hungry for more knowledge.



Restoring voices to those in need

Speech therapist Nurshafinah Mohd Isa finds great fulfilment in helping others regain their speech abilities

TEXT BY **DELLE CHAN**

nderstanding how speech plays a vital role in connecting with others, speech therapist Nurshafinah Mohd Isa (Shafinah) derives meaning from being able to help patients recover their speech functions.

Currently on rotation at Yishun Community Hospital's neurology ward, Ms Shafinah assists those who have suffered strokes or traumatic head injuries by helping them to overcome their communication struggles through language, speech and cognitive rehabilitation. "We teach them how to form words using their lip muscles and tongue if patients have difficulty producing speech," she explains.

"We also share strategies to help them recall words if they have trouble with memory. In essence, we restore voices to the patients under our care."

A MULTIFACETED ROLE

Having graduated two years ago with a Bachelor of Applied Science (Speech Pathology) from the University of Sydney, the 29-year-old joined the workforce during the pandemic and was a speech therapist in charge of Covid-19 wards.

"Speech therapy was a crucial part of the recovery programme for many elderly patients who had swallowing problems due to breathing difficulties," she says.

reathing difficulties," she says. To create awareness among patients and their families, she also had to serve as an "advocate" for her job. Many assume that speech therapists merely teach stroke patients to swallow, but there is more to the role than that.

She explains: "Rehabilitation involves doing mouth exercises to activate the muscles, in addition to swallowing exercises. It may seem easy to us, but it can be quite challenging for them."

Another common problem among stroke patients is aphasia, or language loss, where they have difficulties expressing themselves or understanding what someone is saying. In such cases, confrontational naming therapy is applied, where patients are shown an object and then supported in recalling what it is.

Seeing her patients improve keeps Ms Shafinah going. "One of them was only 40 when she underwent surgery for a brain tumour and had difficulty talking afterwards," she says. "We worked through her speech issues, and it was so heartwarming to see her progress from not being able to say a word to forming sentences."

GROWTH OPPORTUNITIES

While studying biotechnology at Singapore Polytechnic, Ms Shafinah's lecturer introduced her to Healthcare Scholarships. Among the career options offered, speech therapy called out to her the most.

erapy called out to her the mo In 2015, she received the Healthcare Merit Award (awarded by MOH Holdings), which enabled her to pursue her degree while marrying her interests in biology and languages.

As part of an overseas placement, she spent several weeks at St Vincent's Hospital Sydney, learning how to use standard language assessments and observing an ENT (Ear, Nose and Throat) specialist at work in the rehabilitation department. "Thanks to this, it was a seamless transition when I had to use some of the assessments back in Singapore," she adds

More importantly, the scholarship proved to be a massive source of support – in more ways than one. Besides providing the financial support for her education, she also appreciated having a scholarship officer engaging her regularly. Some of her fellow scholars also went to the same university, "so when the going got tough, we had one another to lean on," she reflects.

Finding immense fulfilment in her field, she says it is important to keep an open mind when deciding on a career "because you never know what opportunities lie ahead".

■ Visit healthcarescholarships. sg/scholarships/undergraduate/ healthcare-merit-award-scholarship for more information.





Making an impact from the inside out

As a Superintendent with the Singapore Prison Service, Ms Koh Zhi Mian believes empathy can be a powerful force to guide inmates along their journey of change TEXT BY MARIANNE TAN

s Koh Zhi Mian, who works for the Singapore Prison Service (SPS), has never felt unsafe at her workplace. In fact, she says her job of the last 12 years has brought her great satisfaction and made her a better person.

She recounts many heartwarming episodes that have reinforced her conviction to serve. "On the day of his release, an inmate (who was initially rebellious) told me how my care for inmates motivated him to turn over a new leaf," she shares.

"Another inmate expressed his appreciation to me for taking the time to listen to and encourage him. Their simple thank you's mean a

lot. No matter how insignificant our actions may seem, it may be the turning point for inmates."

Ms Koh, 35, has always wanted to work in a profession that would allow her to help others. Her interest was piqued when she came across a scholarship feature of a prison officer. "His passion and experience really spoke to me," she recalls.

"He referred to his work as being a Captain of Lives, steering change in the inmates. This made me realise that the work of a prison officer is more than just a custodial or disciplinary one, and that there is something deeper."

She was awarded the Local Merit Scholarship (SPS) in 2005, which supported her degree programme in psychology at Nanyang Technological University. Under the scholarship, she also had the chance to take on leadership positions within SPS and actively shape the future of correctional services.

"Thanks to the scholarship, I had the opportunity to be seconded to the Ministry of Home Affairs, where I saw our daily work become legislation, and go on to have a greater impact on society," she says.

PLANTING SEEDS OF CHANGE

In her current role as Superintendent of Institution A3 at Changi Prison Complex, Ms Koh leads a team of about 80 officers to ensure that the basic and rehabilitation needs of over 500 inmates are well taken care of, and that programmes are run properly.

In prison, inmates attend rehabilitation programmes and skills training sessions as well as other programmes that prepare them for reintegration into society.

However, trying to effect change is not always a smooth-sailing process, she notes. "Ex-offenders could go through several cycles of successes and failures before eventually breaking the cycle of offending, so community support for second chances is critical for the successful reintegration of ex-offenders."

She adds: "As a prison officer, it's important to have the belief that

change can happen incrementally. Our work is in guiding inmates on this journey."

By working closely with the inmates, Ms Koh feels she has developed more empathy for others. She explains: "Usually, when people look at offenders, they see the offence that was committed. However, we seek to understand the underlying reasons that might have led to them committing the offence."

She encourages the younger generation to consider a career with SPS. "The impact of our work goes beyond the prison walls – it is not just about the inmates but also their families who have been impacted by their incarceration, and even helping to ensure a safer Singapore.

"Within these walls are stories of hope and opportunities for change to happen. This change could happen because of you."

■ Visit sps.gov.sg/career/scholarships for more information.

MOMENTS THAT MATTER

Over the course of her career, Ms
Koh's many experiences have left
an indelible impact on her, including
taking part in a performance with
inmates during a National Youth
Achievement Award Ceremony in
2016. She played the keyboards
while one of them sang. "It was
inspiring to journey with them,
watch them overcome their fears
and become more confident,"
she says

When Ms Koh did her attachment at Changi Women's Prison, she had hoped to be able to work there. It was therefore a special moment when she became the officer-in-charge of a Correctional Unit in Changi Women's Prison. She shares: "It was my first leadership role where I led a team of officers. I had my own vision of how I'd like to run my Correctional Unit and inspire change in the inmates under my charge."



▲ Ms Koh Zhi Mian's job as Superintendent of Institution A3 at Changi Prison Complex not only makes an impact beyond the prison walls, but has also

