

Inaugural Internet Of Things Datathon

As part of Science Industry Day 2017, the Faculty and Terra Weather, a Singapore-based weather technology company, co-organised the inaugural Internet of Things (IoT) Datathon.

The Datathon was a six-week event where NUS students are mentored by industry experts and seasoned programmers to develop new IoT data-driven applications that solve real challenges faced by small and medium enterprises (SMEs). Following the launch on 30 January, teams went through a Mini Academy in February and March where they received technical mentorship on programming concepts and product development. The Datathon culminated on 17 March, when the finalists presented their proofs of concept to a team of judges and showcased their prototypes at an exhibition.

Through the Datathon, students gained technical skills by learning practical programming from scratch, problem-solving skills as well as exposure to Singapore's entrepreneurial landscape through industry engagement. The event also opened up a diverse talent pipeline for local SMEs.

The Datathon drew 69 teams, who were presented four problem statements facing companies in the sectors of healthcare, clean energy and smart technologies.

To enhance operational efficiency in the healthcare industry through automation, participants were tasked to develop an intelligent system to provide healthcare advice based on a patient's demographics, financial status and medical history. The teams were mentored by Dr TAN Jit Seng, CEO of Lotus Eldercare, an SME which leads in IoT-related projects catering to Singapore's growing silver population.

Dr Tan also oversaw a second project on cloud-based matchmaking for used medical equipment. Teams were guided to develop matchmaking applications to facilitate the buy-back of hospital furniture.

In another project, participants were challenged to develop predictive maintenance algorithms for photovoltaic systems by establishing reliable real-time data monitoring and developing alert mechanisms on potential failures. They were mentored by Mr HO Chee Ming, Technical Director of Energetix, which designs and installs solar photovoltaic systems in Singapore and Southeast Asia.

Other teams were tasked to develop cloud-based applications to test and enhance optical character recognition capabilities. They were mentored by Dr SUN Guo Hua, Technical Director of Jing King Tech Holdings, which develops biometric and automated solutions for various industries.

The winning team, Sababa, developed an algorithm that automates the predictive maintenance of a solar photovoltaic system by analysing data from the inverters. It flags potential failures in advance by learning to recognise root causes, thereby reducing downtime and costs. "

Team Sababa's Kenny CHONG De Wei, Year 4 Physics, said, "We learnt to be flexible and adaptable. Our initial model was very different from our final product. After wrangling our datasets, we discovered new insights and improved our models."

Another Team Sababa member LIU Nairong, Year 4, Statistics, said, "Working on real-life datasets provided great insights on data analytics work."

Mr Ho of Energetix said, "We were impressed by the teams' enthusiasm and the solutions they came up with in such a short time."

Mr Arnold DORAY, Managing Director of Terra Weather, said, "The Datathon helped to connect Singapore SMEs with talented students from Science, Engineering, Business and Arts. The event was very successful in motivating and helping students learn, while promoting engagement with SMEs."

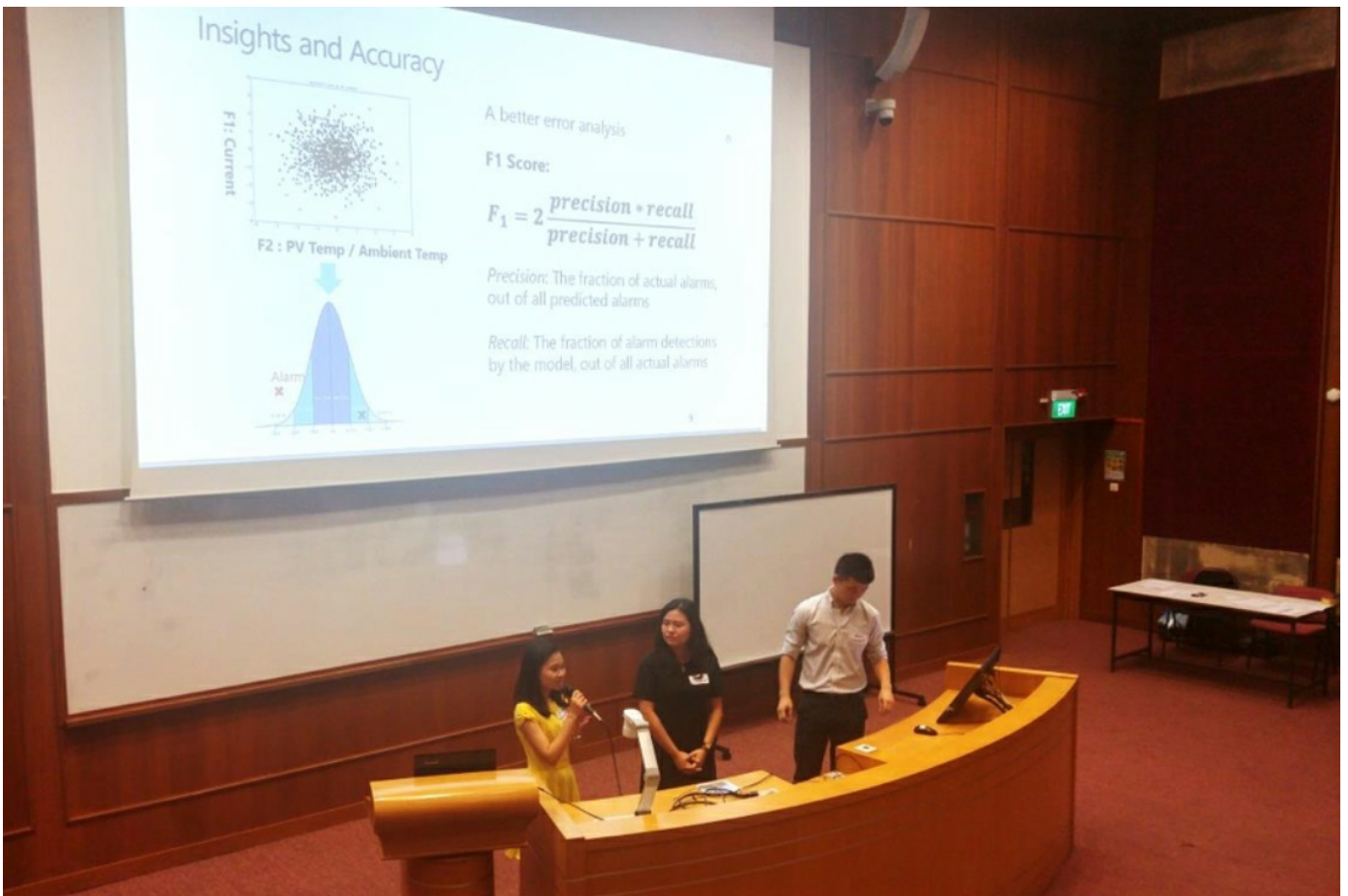
He added, "Students learnt about business and technology and what makes a successful real-world product. Various students wanted to continue building actual products. We are very pleased with the outcome of the Datathon."



The Mini Academy featured workshops from Nest, Arthur D. Little, McLaughlin IP and Terra Weather on entrepreneurship, design conceptualisation and intellectual property







On Demo Day on 11 March, teams presented their respective IoT data-driven applications that could solve real challenges faced by SMEs



Judges from NUS, Terra Weather and the event partners selected winning solutions through a rigorous judging process



Winning team Sababa presented their solutions at an exhibition held on 17 March

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