V PATH
A.I. led Future

THE PROBLEM

Cancer is typically caused by a changes in sections of DNA called genes, and a wide variety of different genes can lead to the same type of cancer, meaning that there is not a one-size-fit-all treatment for patients with the same cancer type. With recent advancements in cancer treatment, by identifying the underlying genetic cause behind cancer, next-generation sequencing (NGS) has been proven useful in personalised treatment methods. Yet not all cancer patients can benefit from NGS as it costs upwards of HK$8,000, in other words, those who are unable to pay cannot receive personalised treatment which could potentially be lifesaving.

OUR SOLUTION

We offer a solution – MAVIS – that serves as a cheaper alternative to NGS which can be made readily available to all cancer patients. By integrating cutting edge technology applications in deep learning and multi-spectral bio-imaging, we provide insightful information through a pathology related approach. This is possible because genetic changes are generally reflected in cell morphology, allowing us to associate specific cell morphology to specific genetic changes, eliminating the need for NGS.

OUR BENEFITS

We make personalised therapy for cancer patients cheaper by incorporating MAVIS into the treatment plan, allowing all patients to benefit from the most effective cancer treatments. Results from MAVIS can be generated instantaneously once provided a tissue image, where NGS typically required about 4 hours for a complete run, while also lessening the laboratory workload for laboratory technicians in a hospital.

OUR TECHNOLOGY

Multi-spectral Autofluorescence - different biomolecules can be differentiated by using multiple wavelengths of deep-UV, allowing us to leverage the different absorption properties of biomolecules to extract cellular structures and features.

Virtual Instant Stain - Mapping of cell morphology to genetic causes is accomplished through a correlation analysis and annotation methods. Additionally, a weakly-supervised deep-learning approach requires less data for training and does not require paired image inputs which are clinically difficult to obtain.

OUR TEAM

Based in Hong Kong, we are a team of five multi-disciplinary individuals with skillsets ranging from imaging and deep learning to consulting and entrepreneurship. We wish to bring affordable healthcare alternatives to benefit all who need them across the world.

Co-founder and COO
Lauren Tsui

Co-founder and CEO
Mark Ngai

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