

# CSCI3250 Industry Engagement Reflection Report

Visit to the Hong Kong Applied Science and Technology Research Institute

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Activity Type: Company Visit

Organization: Hong Kong Applied Science and Technology Research Institute (ASTRI)

Location: Photonics Centre, 2 Science Park E Ave, Science Park

Date of Visit: 2026.3.20

## Reflection

On 20 March 2026, I visited the Hong Kong Applied Science and Technology Research Institute at Science Park. Before the visit, I had a vague impression that research institutes mainly worked on advanced technologies that were still far from everyday use. After listening to the presentations at ASTRI, I realized that applied research is actually much closer to society than I had expected. What impressed me most was not only the technologies themselves, but also the way ASTRI connected research ideas with practical needs in healthcare, finance, and communication. The visit made me feel that computer science is not just about writing code for assignments. It can also become part of systems that people rely on in real life.

The introduction to ASTRI gave me a clearer picture of its role in Hong Kong's innovation ecosystem. The presenters mentioned that ASTRI has more than 660 staff members across Hong Kong and the Mainland, has completed over 1,200 research projects, and has achieved a large number of patents and technology transfers. These numbers made the visit feel more concrete to me. They showed that research output is not measured only by ideas on slides, but also by whether those ideas can be transferred to industry and used in practice. I started to see that innovation is a long process that depends on teamwork, funding, engineering effort, and cooperation with outside organizations.

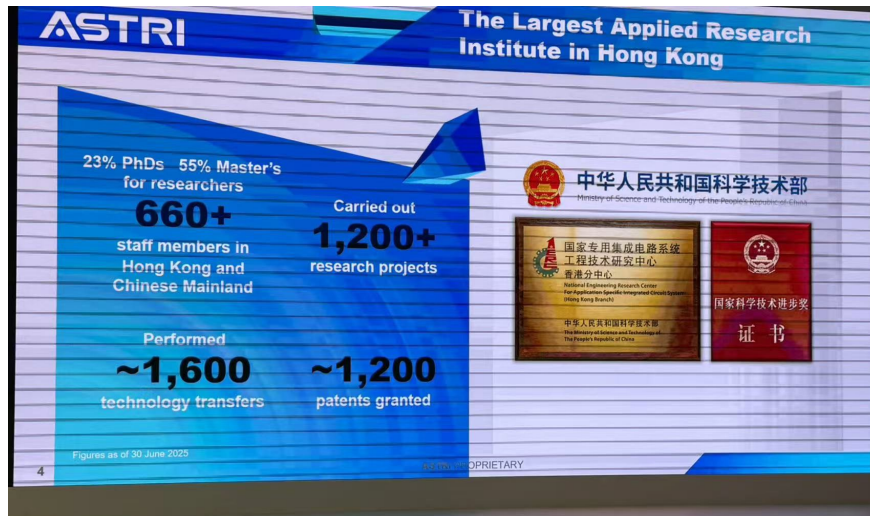


Figure 1: Introduction to ASTRI's scale, research projects, and technology transfer achievements

The part I found most memorable was the presentation on digital health. In particular, the CHIMP Patch caught my attention because it was a good example of how hardware and software can be combined into one meaningful product. The device is small and wearable, but it can monitor several kinds of data, including ECG, heart rate, respiratory rate, skin temperature, sweat level, and location. More importantly, the system does not stop at collecting signals. It also analyzes the data and produces alerts for dangerous situations such as arrhythmia, apnea, or falls. I liked this example because it showed that a successful computing system is not only about technical complexity. It is about whether the system can produce timely and useful information for real users.

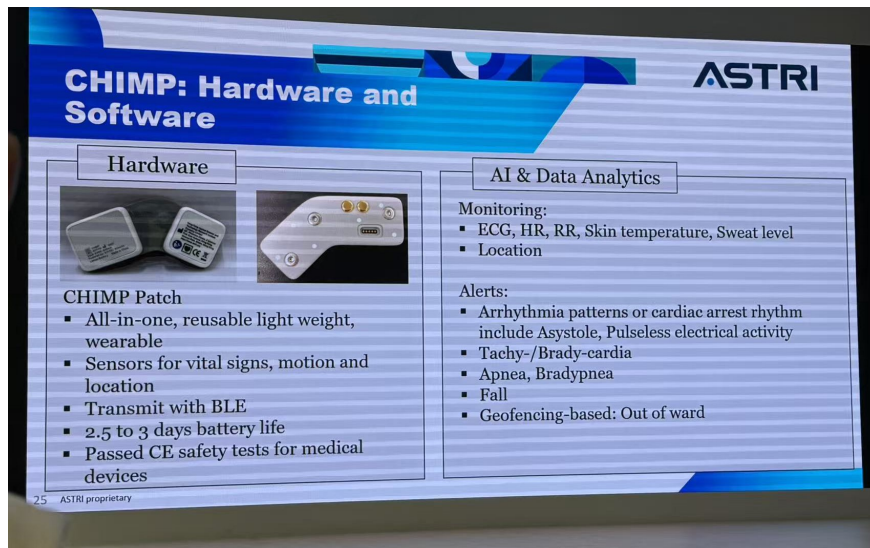


Figure 2: The CHIMP Patch system integrates wearable hardware with AI based health monitoring

This part of the visit connected strongly with my studies. In class, subjects like programming, databases, computer networks, and artificial intelligence are usually taught separately. During the visit, I could clearly see how these areas come together in an actual application. A wearable patch needs sensors to gather data, communication methods to transmit it, software infrastructure to manage it, and intelligent models to interpret it. Seeing these connections helped me understand why foundational courses matter. Even topics that sometimes feel abstract in class can become important when building systems that affect people’s health and safety.

Another presentation that interested me was ASTRI’s work on AI multimodal image processing. The slide showed how RGB images, depth maps, thermal images, and point clouds could be used together for tasks such as defect inspection, site measurement, visual navigation, and three dimensional reconstruction. What I learned from this example is that real world AI is often messier than textbook examples. In many classroom exercises, one model receives one clean input and produces one clear output. In practice, engineers often need to work with different data sources at the same time because each one provides only part of the full picture. This reminded me that building useful AI systems requires not only algorithms, but also judgment about data quality, system design, and the needs of the final application.

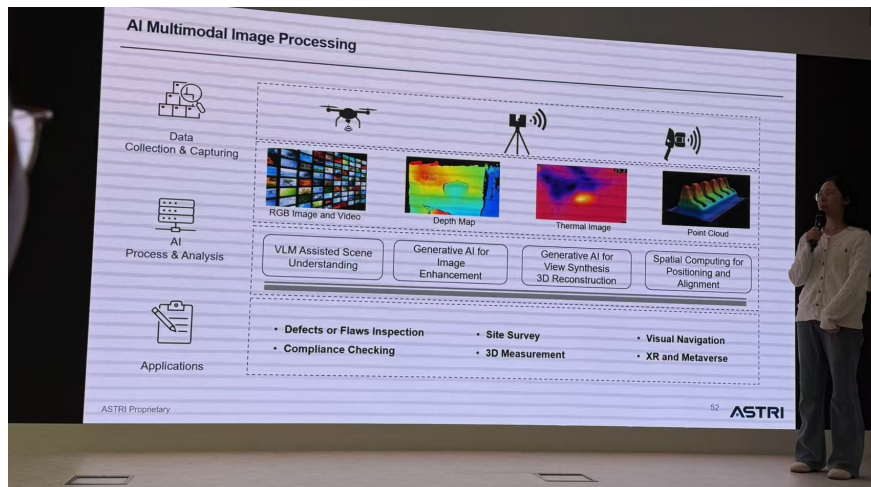


Figure 3: ASTRI’s multimodal AI work combines different image sources for industrial applications

I was also interested in the natural text to speech demonstration. It supported Cantonese, English, and Mandarin, which felt especially relevant in Hong Kong. Compared with some technologies that seem impressive only in a lab setting, this example felt close to everyday communication. It made me realize that a good technical system should match the language habits and actual needs of its users. A model can be advanced in theory, but if it does not work naturally in the local context, its real value may still be limited.

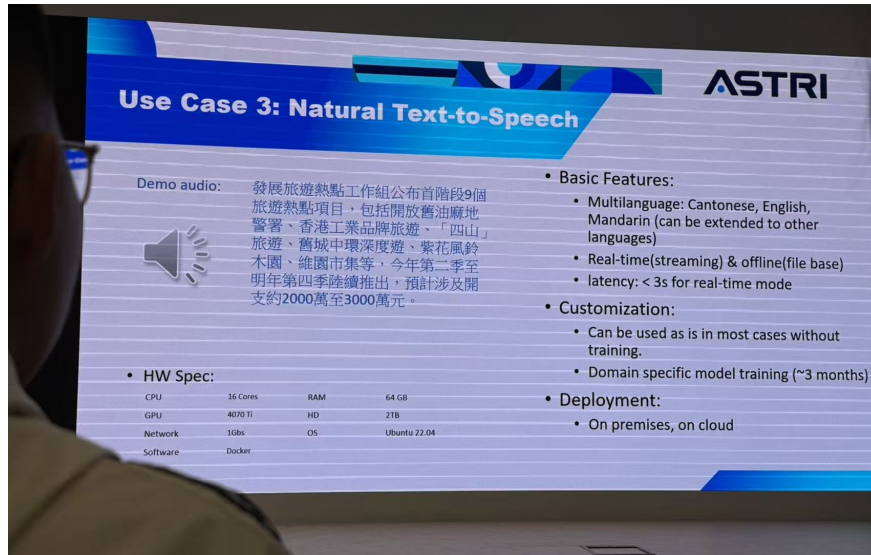


Figure 4: Text-to-speech technology customized for Hong Kong localization

Overall, this visit gave me a more practical understanding of what it means to study computer science. It reminded me that technical ability is only one part of the picture. In industry, engineers also need to think about deployment, privacy, safety, reliability, and collaboration across different fields. My biggest takeaway is that technology becomes most meaningful when it solves problems outside the classroom and creates value for society. After visiting ASTRI, I feel more motivated to strengthen my technical foundation, but I also want to pay more attention to how technology is used by real people. For me, that is what made this industry visit genuinely valuable.