

BIT Winter School Report

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Reflection

Attending the Winter School at Beijing Institute of Technology (BIT) in Zhuhai was a unique opportunity to explore AI through courses like Introduction to AI, Ethics in AI, Breakthroughs in AI, AI in Industry Applications, and LLMs and Applications. Though it only partially met my expectations for deepening my knowledge, the program provided valuable insights and learning experiences.

Introduction to AI

The Introduction to AI course provided an overview of AI's evolution, from early artificial neurons to modern advancements like large language models. Key topics included neural network architectures such as CNNs and the progression of AI technology. However, as a computer scientist familiar with these concepts, I found the material lacked novelty and depth, which limited my engagement despite the lecture being well-structured.

Ethics in AI

The *Ethics in AI* course stood out as the most engaging and enriching aspect of the Winter School. The interactive teaching approach captivated my attention, fostering active participation and thoughtful discussions. The course delved into widely recognized ethical issues such as bias in AI, lethal autonomous weapon systems (LAWS), and the advantages and drawbacks of surveillance for crime detection. What I found particularly valuable was the exploration of these topics from a Chinese perspective, providing unique cultural and societal insights. And even from a technological standpoint, this lecture was outstanding. We discussed thrilling topics, like self-developing AI, which is frightening and inspiring at the same time. Additionally homomorphic encryption for AI was introduced which is a possible solution to the privacy issue, although the needed computation is much higher there. But, the concept of enabling computations on encrypted data without compromising security has far-reaching implications is indeed fascinating.

However, I wished the course had focused more extensively on the potential misuse of AI by governments for population control and the implications for privacy. Despite this, the course was a highlight of the Winter School, offering a balanced view of both the challenges and opportunities posed by AI in society. It was a thought-provoking and well-prepared lecture that left a lasting impression.

Breakthroughs in AI

The *Breakthroughs in AI* course explored significant technological advancements in the field. Although the instructor touched on exciting developments, such as stable diffusion, I felt the course could have been more impactful if it had eliminated redundant introductory content covered in earlier lectures. Nonetheless, this course definitely ranks number two, right after the ethics course, as the professor was obviously very well prepared and knew its audience. She showed deep understanding of the topics and as said in special the topics to the end were interesting. Next Time just skip the introduction stuff and go directly to the interesting topics.

AI in Industry Applications and LLMs

The courses on *AI in Industry Applications* and *LLMs and Applications* were informative but did not introduce any groundbreaking information or novel concepts for me. As someone with a strong background in computer science, I was already familiar with much of the material covered. While the courses were well-structured and accessible for participants from diverse academic backgrounds, they did not meet my expectations for advancing my understanding of AI.

Overall Reflections

The Winter School provided a platform for interdisciplinary learning and cultural exchange, but I found the AI courses lacked depth. As a computer scientist, I had hoped for a more challenging and enriching experience. However, the Ethics in AI course stood out, offering a culturally nuanced view of AI ethics. Additionally, insights into topics like homomorphic encryption and self-designing AI architectures sparked my curiosity and motivated further exploration.

Suggestions for Improvement

To enhance the learning experience, I would recommend:

1. Reducing redundancy across courses to avoid overlap in introductory content.
2. Increasing the focus on advanced topics and recent breakthroughs, particularly for participants with prior knowledge of AI.
3. Expanding discussions on critical issues such as privacy and the misuse of AI, especially in the context of government control.

Overall, the Winter School provided a mix of engaging and less impactful experiences. While it did not fully meet my expectations for advancing my AI knowledge, it offered valuable insights and inspiration in certain areas. I am grateful for the opportunity to participate and for the effort put forth by the instructors to make this program a success.