

114 學年度 電資學院

第四屆 電資實務應用國際研討會

The 4th International Practical Applications Seminar on Electrical Engineering and Computer Science

心得報告

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此次參加 IPAS 國際研討會，對我而言是一段非常特別且充實的學術與文化交流體驗。從一開始參與學長的研究討論，到參觀校園與實驗室，以及最後實際出席研討會、與韓國學生交流，每一個環節都讓我大開眼界，更加確信這次活動的意義與價值。

最初我參與的組別是 AI 加速器相關研究。能夠旁聽學長與教授間的討論，使我獲得了許多寶貴的知識，不論是對研究內容的理解，或是觀察問題的視角，都讓我獲益良多。同時，我也深刻體會到自己的不足之處，明白自己還有許多需要加強的地方。

抵達延世大學後，第一天我們參加了校園導覽與實驗室參觀。整座校園壯觀又充滿特色，各式建築風格令人印象深刻。特別是電資學院一樓的寬敞咖啡廳，成為學生閱讀與討論的空間，讓我十分喜歡。在眾多實驗室之中，最令我驚艷的是 vRAN 實驗室。他們運用 LLM 與 SLM 模型，解決通訊網路中訊號傳輸不穩定的問題，並展示了以語言模型操控機械手臂調製飲料的實驗成果。儘管我仍是大一學生，相關知識有限，但看到這些研究成果，讓我更堅定了未來想朝通訊領域發展的決心。

第二天是正式的國際研討會。雖然我以見學的身份參與、沒有上台發表，但我擔任了計時的工作，得以更專注地聆聽學長姐們的演講。其中最令我印象深刻的是關於 Compute-in-memory Architecture for Binary Neural Network 的報告。該研究透過對記憶體資料傳輸的分析，提出不需 ADC 就能直接在記憶體中完成運算的方法，成功達到簡化計算並降低功耗。很幸運地，我剛好與該位研究者同桌，因而能進一步了解他的研究內容。

此外，透過這場研討會，我認識了許多學長姐與韓國的同學。晚宴時我們一同交流彼此的文化與專業領域，也在全英文的對話中，不僅鍛鍊了口語能力，還結交了不少新朋友。

回顧這次經驗，我很慶幸能在大一時就參與這樣的國際研討會。雖然自己的專業知識尚淺，但這次活動讓我更有動力投入學習，也更加確認自己對通訊與資訊領域的熱情。期許未來有一天，我也能像這次的學長姐們一樣，站上舞台發表屬於自己的研究成果，並在更多國際交流中持續學習與成長。

Participating in the IPAS International Conference was a truly special and enriching experience that combined both academic learning and cultural exchange. From attending a senior student's research discussion to visiting the campus and laboratories, and finally participating in the conference and interacting with Korean students, every moment of the trip broadened my horizons and reaffirmed the meaningful value of this event.

The group I joined focused on AI accelerator research. Listening to the discussions between the senior student and professors helped me gain valuable knowledge—not only in understanding the research content but also in learning how to observe and approach scientific problems. At the same time, I became more aware of my own limitations and realized there are still many aspects where I need to improve.

Upon arriving at Yonsei University, our first day was dedicated to a campus tour and laboratory visits. The entire campus was grand and full of character, with various impressive buildings that left a deep impression on me. What I found especially memorable was the spacious café on the first floor of the College of Engineering, which provided a comfortable space for students to study and discuss. Among all the laboratories we visited, the one that amazed me the most was the vRAN Lab. They applied LLM and SLM models to address instability issues in communication networks and demonstrated an experiment in which a robotic arm, controlled by language models, prepared beverages. Although I am only a freshman and still lack detailed technical knowledge, witnessing such cutting-edge research strengthened my determination to pursue future studies in the field of communications.

The second day marked the official start of the international conference. Although I participated as an observer and did not present on stage, I took on the role of timekeeper, which allowed me to focus more attentively on the presentations. The one that impressed me most was titled "Compute-in-memory Architecture for Binary Neural Network." The study proposed a method to perform computations directly within memory without using ADCs, simplifying the process and reducing power consumption. I was fortunate to sit at the same table as the researcher, which gave me an opportunity to gain a deeper understanding of his work.

In addition, through this conference, I met many senior students and Korean peers. During the evening banquet, we exchanged thoughts about our cultures and academic interests. Since we communicated entirely in English, it provided me with a valuable opportunity to practice my speaking skills while also making new international friends.

Looking back on this experience, I am truly grateful to have had the chance to participate in such an international academic event during my freshman year. Although my professional knowledge is still limited, this experience inspired me

to study harder and strengthened my passion for the fields of communication and information technology. I hope that one day, I can stand on stage like my seniors did, presenting my own research and continuing to learn and grow through international academic exchange.



(圖一)參與證明



(圖二)通訊實驗室參訪



(圖三)延世大學校園參觀



(圖四)和韓國朋友以及台科學長合影留念

報告人簽名：葉高皓

日期:115/01/03