

# UChicago Summer Research

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This summer has been a transformative experience for me, filled with both personal and professional growth. After some internship experience in the industry, I realized that while the work was enjoyable and relaxed, it didn't provide the level of challenge I was looking for. I felt the need to explore more opportunities, especially outside Taiwan, where I found fewer options that aligned with my goals. So, I applied for a summer research program abroad, and to my surprise and excitement, I was accepted.

## Research Experience

I have a background in competitive programming and a strong interest in machine learning and large language models (LLMs). Last summer, I worked on building pipelines for LLM applications, which sparked my interest in studying this field further. When I got the chance to do similar research at the University of Chicago, I eagerly accepted.

Our initial research topic was focused on performance bug reasoning using LLMs. We started by working on a project involving Hadoop, where we experimented with different prompting techniques to see if LLMs could generate performance testing programs. However, this approach proved to be too ambitious; the LLMs struggled with understanding the complex scenarios required for this task. After discussing with my mentor and professor, we decided to narrow our focus to a more manageable scope: examining LLMs' ability to identify performance-related bugs in competitive programming datasets. This change in direction made a significant difference, and we started to see more promising results.

## Working Environment

The working environment in my lab was very flexible, with no set working hours or specific locations. My professor and PhD mentor were often not in the office, which allowed me to choose where I felt most productive. Sometimes, I worked in the office, where I had access to a dedicated desk, monitor, and other equipment. Other times, I would work in the library or at a nearby coffee shop.

This flexibility also meant that I had to be proactive in planning my own schedule. There were no strict deadlines for

tasks, so I had to determine the timeline for running experiments, writing code, or analyzing data. Some days, I would be fully immersed in coding, building infrastructure quickly; other days, I'd run experiments and then take some time to relax. In general, my working hours were similar to my internship at Google, but less intense compared to my previous experience working at a startup. I realize, however, that this experience can vary greatly depending on the department or even the specific lab.



## Program and Social Events

The summer program included 18 students, and there were several social events organized, such as marshmallow roasts and ice cream socials. However, unlike other summer programs at UChicago, we didn't have a final presentation or poster session, which might have contributed to the weaker connections among participants.



## Dormitory Life

Living in the dorms provided a unique chance to meet and connect with people from diverse backgrounds. I made friends with a group of students from the Research Experiences for Undergraduates (REU) program, most of whom were from different states in the US, each with their own accents and cultural nuances. Our friendship started with casual activities like playing video games, but it soon grew to include movie nights, poker games, and even an evening of board games at a mentor's house.

I also became friends with some students from Peking University (PKU), who were there for chemistry research. We often cooked meals together, explored local museums, and sought out good food in Chinatown. I quickly realized that many of them were much better cooks than me!

The most rewarding part of living in the dorms was the opportunity to interact with students from all over the world. I

met people from India, Egypt, Brazil, and many other places. It was fascinating to discuss our different cultures, sharing both commonalities and differences.

I also engaged in several political discussions with the Chinese students, which were often intense. While it was uncomfortable at times, especially when some insisted that Taiwan is under their rule, I appreciated the chance to see that not all Chinese people are nationalistic; some are quite rational, even under the influence of the current political climate.

## Dining and Cooking

Eating out in the US turned out to be more expensive than in Taiwan, so I kept it to a minimum, mostly on weekends. On weekdays, I relied on food trucks and student food courts on campus, which were more affordable but only open for lunch. To save money, I started cooking simple meals for dinner, like pasta and fried rice, using the public kitchen in the dorm.

## Reflections

This summer has been eye-opening in many ways. English has been a significant challenge, not just in terms of language, but also understanding cultural nuances and differences. I've also gained a deeper appreciation for how convenient, safe, and affordable life is in Taipei, especially when compared to my experience in the US.

I've realized that I don't cope well with loneliness, so it's important for me to reach out and build friendships quickly in new environments. Stepping out of my comfort zone has been challenging, but it's shown me that my comfort zone can expand little by little with each new experience.

Overall, this summer has been filled with growth — professionally, personally, and culturally. I've gained a better understanding of what I want in the future and feel more prepared to pursue it.

