

Reflection on My Research Visit to the Technical University of Munich (TUM)

Dear UACS Networking Department,

I would like to share a reflection on my visit to Munich from September 3rd to September 5th. Although it was a relatively short stay, it was a very valuable experience for me, both academically and personally. It gave me the opportunity to see how an international research project works in practice, to discuss the challenges that come with working with real participants and real data, and to experience a new academic and cultural environment.

During my time at the Chair of Health Informatics at the Technical University of Munich (TUM), I had the opportunity to discuss the work that had already been carried out within the Erasmus+ TE(A)CHADOPT project. We talked about the methodology that had been used, the way the research had been organized, the results obtained so far, and some of the challenges that appeared during the research process. What I found especially useful was that the discussions were not focused only on what had worked well, but also on what could have been done differently and how future research could be improved.

One of the main challenges we discussed was the great diversity among children with neurodevelopmental disorders. Some children are verbal and able to express themselves through speech, while others are minimally verbal or non-verbal. Even among children with typical development, there can be large differences in speech, emotional expression, communication styles, and the way they react to technology. Because of these differences, it became very clear that one model or one approach cannot be expected to work equally well for every child.

This was particularly important in relation to speech emotion recognition. If a child communicates very little through speech, then a system that relies mainly on spoken data may not be suitable. Even when speech is available, the way emotions are expressed can differ greatly from one child to another. Because of this, we discussed the importance of combining different types of information when necessary, such as speech, facial expressions, behavioral signs, interaction patterns, or other forms of communication. This made me realize how complex the development of truly inclusive technologies can be and why a “one model fits all” approach is often not appropriate.

Another important part of our discussions focused on research methodology. We talked about participant selection, sample size, the quality of the collected data, how results are interpreted, and how difficult it can be to compare participants who have very different characteristics and abilities. We also discussed the importance of clearly defining participant

groups and collecting more diverse data in future studies so that models can be tested more carefully across different populations.

Another point that stayed with me was how new and developing this field still is. There is increasing interest in artificial intelligence, speech analysis, and technology for children with neurodevelopmental disorders, but there is still relatively limited research that can be directly compared across different groups and settings. This makes the field especially interesting, but it also means that researchers need to be careful when interpreting findings and avoid assuming that results obtained from one group will automatically apply to another.

I also appreciated that we spoke openly about the limitations of the project and about what could be improved in future work. It gave me a much more realistic picture of research. I realized that research is not always a simple process where everything goes according to the original plan. Sometimes methods need to be changed, participant groups need to be reconsidered, or new questions appear once the data has been collected.

A particularly nice part of my stay was that the postdoctoral researcher who supervised me also gave me a short tour of the TUM premises. I was able to see more of the university environment, learn about the research facilities, and get a better sense of how different research groups work and collaborate. It was interesting to see the university beyond the specific project activities and to experience the academic atmosphere of TUM in person.

Outside the academic activities, I also had the opportunity to explore Munich and experience more of the city. I spent time around Marienplatz, or Mary's Square, in the heart of Munich's historic center. It was one of the places that immediately made the strongest impression on me. The square is surrounded by impressive historic buildings, and the Neues Rathaus, or New Town Hall, was especially striking with its detailed Gothic Revival architecture and famous clock tower. In the center of the square, I also saw the Mariensäule, or Mary's Column, and the Fischbrunnen, the Fish Fountain, which gave the square an even more traditional and historic atmosphere.

From Marienplatz, I walked through the surrounding Altstadt, the Old Town, which I found especially enjoyable because of its narrow streets, old buildings, cafés, and shops. I also saw the Altes Rathaus, the Old Town Hall, and visited St. Peter's Church, or Peterskirche, one of the oldest churches in Munich.

Nearby, I also visited the Viktualienmarkt, a traditional open-air market filled with food stalls, local products, flowers, cafés, and small shops. I really enjoyed this area because it felt more local and everyday compared with the main tourist landmarks.

Another part of Munich that I especially enjoyed was the area around the Isar River. Walking near the river gave me a completely different impression of the city. It felt calm, open, and much more relaxed compared with the historic center. I also saw the Maximilianeum, one of the most striking buildings in that part of Munich. It stands above the Isar and is home to the Bayerischer Landtag, the Bavarian State Parliament. Its location and architecture are very impressive, especially when seen from across the river. I also had the opportunity to see the Regierung von Oberbayern, the Government of Upper Bavaria, another distinctive historic and institutional building.

Exploring these different places helped me see Munich as much more than just a university and technology center. The city has a strong historical character, but at the same time it feels modern, organized, and very active. I really enjoyed the contrast between the academic environment at TUM, the historic streets and squares of the city center, and the more relaxed atmosphere around the Isar River.

Overall, this visit gave me much more than an introduction to a particular research topic. It helped me better understand the challenges of conducting research with diverse participant groups, the importance of choosing and adapting research methodologies carefully, and the need to consider both the strengths and limitations of technological solutions.

At the same time, experiencing the TUM environment and having the opportunity to explore Munich made the visit much more personal and memorable. I returned with new ideas, a broader understanding of research work, and even greater motivation to take part in similar international and interdisciplinary opportunities in the future.

I am very grateful to UACS and the Milovanovic family for supporting this opportunity and making this experience possible.

Thank you once again for this valuable experience.

Sincerely,
Angela Zorchec