



They were assigned to work on a rocket programme called FalconLAUNCH. Drawn to the excitement and challenge of working overseas, Yuanhui and Alvin responded to the opportunity offered by DSO. As Alvin put it, "It was a chance to improve myself in both the technical and cultural aspects. Few Singaporeans will ever get to work on a rocket, even a relatively small one such as the FalconLAUNCH, or with other countries' governmental organisations." Excited at being the only student from their schools to be chosen for this programme, they set off on their journey, albeit with some apprehension on performing up to expectations.

Once in America, they were dispatched to work on the programme together with experts and cadets at USAFA. Yuanhui shared, "My project involved the design and development of the avionics and ground station software for the sounding rocket. My team was allowed to exercise our own time management; thereby allowing

Alvin Pee from School of Mechanical and Aerospace Engineering and his friend Li Yuanhui from the School of Electrical & Electronic Engineering were offered by DSO National Laboratories to work in America for six months with the United States Air Force Academy (USAFA) as part of their attachment programme.

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6-month Attachment under DSO with US Air Force Academy

me to gain control of my own progress on the project as long as it meets the deadline. It trained my discipline and determination as not only did I attempt to meet the system requirements but also endeavoured to improve system performance and extra capabilities."

For Alvin, his job scope though different was equally as challenging, "My core job was working in the propulsion and fly-out simulation team. Over the six months, I applied what I learnt from the Aerospace programme in NTU and applied to a real rocket project - FalconLAUNCH. I got the chance to work with USAFA cadets and external engineers to tackle the various issues involved when building a complex system such as a rocket. Furthermore, I collaborated with two other cadets on a sub-project which evaluated the effectiveness of their fly-out software, which meant building and launching a sounding rocket multiple times in order to analyse their performance. We eventually submitted our research to the AIAA Region V Student Conference and even presented it at the Colorado Springs Undergraduate Research Forum (CSURF)."

Yuanhui and Alvin shared that in addition to the technically demanding aspect that comes with being in a global work place, their soft skills were especially honed. "The experience gained from this internship has enhanced my ability to communicate better as well as refined by independent learning skills. It also broadened my knowledge and ideas in problem solving. These skills developed will prove to be important in my future career as an engineer," said Yuanhui.

Alvin admitted that they definitely felt some nervousness at representing Singapore and NTU in a place where these names are rarely heard of. Nevertheless, besides projecting a good example, they found out that it was easier to integrate than it seemed.

Alvin recounted: "In Singapore it is rare to invite colleagues over to our homes unless we have a good working relationship, but in the US, house parties are very common. We even had a mixed-theme BBQ "Food Exchange Programme" with our supervisor to introduce him to the likes of honey chicken."

Yuanhui also shared: "Being somewhere for six months really allows you to get to know the place and the people that live there well. There was a real opportunity to understand someone from a different culture and appreciate the differences. The most interesting thing that happened was when the water pipe at the house that we lived in froze due to the extreme cold weather. Thus we needed to ration water from our neighbour with milk bottles that we emptied every week. At the end of the saga, we had more than a dozen of those bottles stacked in a corner. Through that, we learnt to use water more wisely."

When asked to share if their juniors should consider applying for attachments and internships and how to gain the best experience out of them, Yuanhui ventured, "Attachments are important because it allows you to understand the industry and its work culture.



It also allows you to develop good networking relationship with the company which might be your eventual place of work." For Alvin, it was a classic case of being able to apply what was taught in the classroom to the real world, "Even if internships are not technically challenging, there is still a gap between the notes and the real world that internships can help to bridge. They should go for internships because companies do not place too much value on textbook knowledge. Instead they value problem solving skills much more and internships place you in a unique position to expose oneself to that aspect."

For both of them, the memories gained and working relationships formed will stay with them for a long time to come. Both agreed that through this attachment, they have gained experiences that not many others will have. Thus they are grateful for that and for an internship that helps to not only improve themselves professionally and personally but also places the world around them into a much greater perspective.

