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Platform and CubeSat Engineer

Creating the right systems and platforms so that our training assets can continue to grow, be accessible, using appropriate technologies, and managed is the core work of our platform engineer. As one of the first products at OASA is our educational CubeSat which we have specifically created for Hong Kong and GBA, the incumbent is also become our CubeSat Engineer where CubeSat is one of the platforms in the NewSpace Economy.

Purpose of the Position

OASA has continued to grow from strength to strength since our founding in Feb 2020. Despite being a young start-up, we have continued to make impact with our constituencies and delivering our missions. Now as a recently admitted member of Cyberport as one of their incubatees, OASA has been given much more leeway and dedicated support. One areas we need to further strengthen and grow is our mission to bring/develop the best CubeSat education to Hong Kong and the Greater Bay.

So far we have reached a few milestones. In 2021, we have created a new CubeSat programs with HKU's Lab for Space Research and for the first time in Hong Kong, influenced over 300 teachers and secondary school students to the new world of the NewSpace Economy, mini-satellites, and big data. In 2022, we licensed our first CubeSat to PolyU. Other firsts quickly followed and we are now teaching students how to think innovatively, by using CubeSats to remove space debris, with our partner at the Aeronautical Engineering at the PolyU. By the end of 2023, we have finished three brand new public programs with CubeSats through HKPC, with over 120 students through four cohorts. **We expected the need for CubeSat training for teachers and trainers will be a growth area given Hong Kong's latest development in NewSpace**.

OASA's CubeSat system, someday to include CubeSat dispensers and ride-sharing onto rockets, requires continual research, innovation, and adaptation. One direction for

engineering the CubeSats and preparing them for actual launches, is to make them more robust, standardised, testable, patentable, and which can be sold as kits. Conversely, another version of the CubeSat will need to become much more simpler, with specially designed learning modules, so that any student (from Kindergarten to graduate students) can master the subject in 12 hours or less. We envision someday each student in Asia can learn how to put together a CubeSat by themselves, proposes to have their CubeSat piggyback onto rockets that take them hundreds of kilometres into Space and connect that to a drone just a few feet off the ground.

The Job

The incumbent is to work with other engineers, trainers, teachers, researchers, scientists mostly in Hong Kong but also those in the mainland and Asia. The engineer establishes and documents the engineering requirements for our educational platform, and our CubeSat systems; work with interns and engineers to develop and test the robustness of the system, and liaise with our partners and outside parties for proper protocol and interfaces so that we may deliver our mission.

Requirements for this Position (Full or Part Time)

1. Strong grades in engineering from a top ranked engineering school. Hands on.
2. At least three years of working experience. HKID holder.
3. University graduate in STEM -- solid academics. Mechanical, electrical, industrial and systems engineering as background. Possessing a master's degree and have previous exposure to CubeSat would be an advantage.
4. Background in and interests in space science, systems thinking, business, education, and the NewSpace Economy is a must.
5. Speaks and writes cogently in English and Chinese (Putonghua and Cantonese) -- strong communications skills and a team player.
6. Certification in 3-D modelling and printing, Auto-CAD, SPSS, and other programming languages.

7. Experience in building CubeSats, Ground Stations, or similar apparatus.
8. Some training experience, especially with primary and secondary school students, and solid experience in writing instructional procedures and exercises.
9. Competitive package and contract for 1 to 3 years.

As a CubeSat Engineer, the incumbent must be able to structure and put together such a system, teach others the functionalities, and continue to refine the CubeSat system as a learning tool. This is a part-time or full-time position.

Main Responsibilities in the Areas of CubeSat:

A. Designing and Building CubeSats; and converting that to an educational and learnable system.
B. Documenting and filing for patents.
C. Developing the train-the-trainers materials.
D. Teaching and working with trainers to develop and refine the educational modules.
E. Testing the CubeSats and the CubeSat Systems.

Other Job Duties

Generally speaking, the role of a Platform and CubeSat Engineer can be roughly described as the infrastructure systems engineer who would research, design and keep our CubeSat system and other supporting systems running smoothly**. Research and adoption is the primary responsibility**. Some maintenance work of other interdependent systems is expected and would be appropriate however.
Other management support systems such as ground stations would become more evident as time progresses. Eventually, we will aim to keep these sub-systems clean and easy to use so that the main work of CubeSat can be delivered.