

## **Abstract**

JY1Sat, Jordan's first CubeSat, was developed by Jordanian students from various universities under an initiative called: MASAR which is directed by crown prince foundation of Jordan. JY1-Sat was successfully launched aboard SpaceX's Falcon 9 from Vandenberg Air Force Base on December 3th, 2018. It is named in tribute of the late King Hussein who was an amateur ham radio operator. This presentation introduces MASAR and a technical overview of JY1Sat including the mission objectives, requirements, encountered challenges and difficulties. JY1-Sat uses amateur radio bands for communication and multiple operational modes that have been implemented to optimize power consumption and meet the mission requirements. ADCS is developed to detumble the satellite in less than 20 minutes and the appropriate control strategy was chosen to keep the satellite stable throughout the mission.

## **About the presenter**

Ahmad Fares is a graduate student and a volunteer in the crown prince foundation whose passion for space and satellites started in his undergraduate studies while he was working in the development of Jordan's first satellite, JY1-Sat. His research is related to satellite attitude determination and control, machine learning algorithms, specifically reinforcement learning and neural networks and their applications in control, and astrodynamics. He is currently pursuing his master's degree at Jordan University of Science and Technology.