Nanjing Institute of Technology
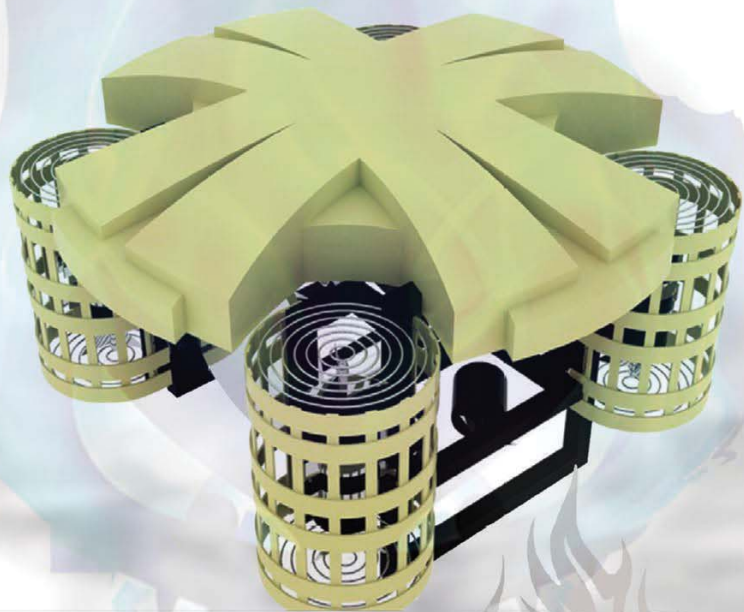# Spec Sheet

Our team is called Challenger. We are from Nanjing Institute of Technology, a popular university in Nanjing, Jiangsu province, China. It is a fairly long way from Nanjing to HONGKONG, it is the third time our team is participating in the MATE competition.

Our ROV has a pretty imposing name ——— Sea Wolf, whose total expenseis about 29,256.50 yuan.In the perspective of design rationale, the revolutionary change of the ROV comes to the shift of the robot's major structure from the plate to the 440mm*440mm*80mm framework.The video system consists of three cameras. Symmetric distribution, which is convenient enough to make Sea Wolf move upward or downward. The direction driving motors at the bottom employ a similar Symmetric layout strategy at 45 degrees to the edges of Sea Wolf in order to control the translation and rotation of the ROV.Using the mode of ARM9+ coterx−m3 dual core processing architecture as the core control system, the control program is designed based on C and C++ programming language. Refers to the data transmission system, the network cables and serial ports are used at the same time for accurate transmission. When it comes to safetymeasures, aiming at protect the main chip, a fuse was installed in the main circuit to prevent the large short−circuit current burning out the chip. Furthermore, handmade protective screenings around the motors can greatly reduce the potential harm caused by the contact between our hands and thepropellers. Besides,we use a multimeter to confirm whether every circuitconnection is correct carefully.

TEAM MEMBER:

Name	Role
Xiaodong Dai	CEO
Chenxu Ji	CTO
Xiaoxiao Zhu	CFO
Tifan Yan	Mechanical Engineer
Zhifei Wu	Mechanical Engineer
Yanqing Zhuang	Mechanical Engineer
Zhentao Chen	Mechanical Engineer
Shurui Wu	Mechanical Engineer
Chengbi Gao	Mechanical Engineer
Yi Zhang	Public Affair Officer
Chaowei Jin	Public Affair Officer
Pengyu Zhang	Soft Engineer
Huichen Lu	Soft Engineer
Pengcheng Zhou	Soft Engineer
Chenxu Ma	Soft Engineer
Yang Liu	Soft Engineer
Yufei Zhang	Soft Engineer

SEA WOLF

TEACHER GUILD:

Name	Title
Hanqi Yu	Doctor
Wei Chen	Associate Professor
Xianglin Ma	Associate Professor
Ximing Xia	Doctor
Jun Zhang	Lecture
Wei Chen	Lecture