

The TritonBots RoboCup SSL Team is one of IEEE UC San Diego Student Branch's annual projects. The team competes internationally in the Robocup Small Sized League competition. This season the team will be competing in Incheon, South Korea in 2026. Our team consists of 30 undergraduates working developing 6 autonomous soccer-playing robots for the competition. Our teams are divided into the following categories to ensure these developments are being made:

- Electrical team:
  - Design PCBs and circuitry for microcontrollers, power distribution, and high voltage electronics
- Mechanical team:
  - Design the structure and mechanisms of the robot using CAD and simulation tools
- Embedded team:
  - Program microcontrollers to set up communication between motors and other devices, tune PID for optimal robot movement
- Artificial Intelligence team:
  - Develop gameplay strategies with Deep Learning & ML through the robot soccer simulation

Our team would greatly benefit from the support of the IEEE San Diego Executive Committee in funding this project further. Our request breakdown is as follows:

Item	Quantity	Total
Green Expo Carpet	1	260
DJI RoboMaster Development Board Type A	2	185.90
RoboMaster M2006 P36 Brushless DC Gear Motor	2	150.88
Kicker Module Components	1	110.46
Power Distribution Board Components	1	106.27

Total Cost: \$913.51

Our Request: \$1000, in the event of fees, shipping, etc.

This will allow us to make the robots necessary for competition, representing IEEE at UC San Diego along with the IEEE San Diego Section by affiliation. Additionally, we will be presenting this at the Rising Stars 2026 Project Showcase where it will be in competition with the other projects of the same level. We will indicate the support of IEEE San Diego Section at both competitions with reports after both regarding the outcome and future plans of the TritonBots. This project will continue after the 2026 academic year comes to an end. We intend to compete in the future humanoid league as other institutions have been competing in throughout the past decade. Advancements now will allow for the potential future sponsorship and support throughout the development of our current robot within the small sized league to develop further for the humanoid league.

