## General Information for This Template

* The Team Description Paper (TDP) is a document that describes the team's robot, software, and research. It is only required for teams participating in the following leagues/sub-leagues:
* RoboCupJunior Leagues
  + - RCJ Rescue Line, Secondary
* RCAP CoSpace Leagues
  + - RCAP CoSpace Autonomous Driving, U19
    - RCAP CoSpace Rescue, U19
    - RCAP CoSpace Rescue, University, Preliminary
    - RCAP CoSpace Rescue, University Advanced
    - RCAP CoSpace Autonomous Delivery, U19
    - RCAP CoSpace Autonomous Delivery, University
* This template contains a suggested structure for your TDP. You may only use the parts which are suitable for your own league/sub-leagues instead of including all parts as stated in the TDP template.
* This document is supposed to be between **5 to 10 pages** long (from Abstract to Conclusion). Please **keep the formatting** (font size and type, margins, line spacing, etc).
* All figures and tables should be properly numbered.
* Use diagrams, flow charts, etc. throughout this document to better **illustrate your work.**
* Submit the TDP as a **PDF file**.



**RoboCup Asia-Pacific 2024**

**Team Description Paper**

(Cover Page)

|  |  |
| --- | --- |
| League Name: |  |
| Age Group: |  |
| Team Name: |  |
| Team Website: |  |
| Participants and Technical Roles |  |
| Team Photo |  |
| Mentor Name: |  |
| Institution: |  |
| Region: |  |
| Contact Person: |  |
| Contact Email: |  |
| Date: |  |



**RoboCup Asia-Pacific 2024**

**Team Description Paper**

League Name

Team Name

Student 1, Student 2, …

(Region)

## Abstract

* Abstracts are typically 100–250 words and comprise one or two paragraphs.
* In the abstract, please discuss all the need-to-know details of your Team Description Paper (TDP): purpose (what problem it attempts to solve), method (the methodology of your research), results and discussion (conclusive outcome and significance).
* Please concentrate on your robot, their main capabilities, algorithms, strategies, and innovation. Do not describe your league/sub-league in detail.

## Introduction

## Team

* Team background, including website and video link (if you have).
* Brief description of roles of each participant in the team and past experiences.

## Project Planning

## Overall project plan

* Talk about your aim for the competition.
* Describe the overall project plan.
* Explain your milestones.
* How has analyzing the task and its constraints influenced your project plan.

## Integration plan

* Explain the structure of your system and how the different parts work together.

## Testing

* Describe the testing procedures you implemented to verify your robot’s performance.
* Explain how you analyzed the test results and how they impacted your development.

## Software

## General software architecture

* Describe the general structure of your software.
* Use diagrams, flowcharts, or pseudo code to illustrate your explanations.
* Talk about how the solutions to different parts of the whole task are integrated.

## Innovative solutions

* Explain any innovative and unusual solutions/approaches you used to tackle the challenge.
* Provide data and illustrations to reason your design choices.
* Any “AI” tools, such as ChatGPT used in solving the problem?

## Source code

* If you wish to include part of your source code for explanation, please add it as an appendix.

## Hardware

* Give a high-level overview over the hardware design of your robot.
* Highlight important features and talk about how everything comes together.

## Mechanical design and manufacturing

* Go into detail on aspects such as:
* Main structure
* Actuators and power
* Important subassemblies/modules, etc.
* Rescue mechanism (Line only) / Rescue kit deployment mechanisms
* Provide drawings and diagrams to support your explanations and reasoning for your design choices.

## Electronic design and manufacturing

* Go into detail on aspects such as:
* Sensors
* Main controller
* Power subsystem, etc.
* Provide drawings and diagrams to support your explanation and reasoning for your design choices

## Performance Evaluation (Result)

* Evaluate the performance of your robot.

## Discussion and Conclusion

* Brief conclusion of this paper.
* Discuss on the impact of your hardware design / software algorithm to the project.
* Share your team’s learning experience.
* Description of future work.

## Acknowledgements

* This could be someone from a sponsoring institution, a funding agency, other researchers, or even family members or friends who have helped in the preparation.

## References

* References to external sources used for major parts of the development process.

## Appendix (optional)

* The appendix is NOT to continue writing the main text. It should be reserved for additional info if the reader is interested or curious to know more. Teams may link to external documentation as an alternative to the appendix.