

Portfolio — 2024

THIS IS MY PORTFOLIO FOR THE LAST YEAR'S ROBOTICS PARTICIPATION AND EXPERIENCES. I HOPE YOU WILL ENJOY THE AESTHETIC PLEASURE OF VIEWING IT.

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SALAPARE, JHON MHAR

STUDENT INFORMATION SHEET

JHON MHAR SALAPARE

Senior High School Student



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Pinamukan Proper Purok 2

Hobby

- Sketching/Drawing/Painting
- Watching Films, Anime, etc.
- Working out/Exercising

Languange

- Tagalog/Filipino
- English

About Me

I am Jhon Mhar R. Salapare, a dedicated student passionate about technology and programming. With a keen interest in robotics, CSS, and programming, I am driven to pursue a career in IT and aspire to become a successful businessman or programmer. My philosophy in life is to remain humble, treat others with kindness, and trust in God's plan.

Education

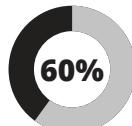
PIS Senior High School(2023 - 2024)

Currently, I am a Grade 12 senior high school student at Pinamukan Integrated School for the academic year 2023-2024

Batangas Eastern Colleges (2021 - 2022)

I completed my high school education at BEC (Batangas Eastern Colleges), moving up in June 2021-2022.

Skills



Time Management



Analysis



Team Work

Preface

Participating in the World Robotics Games (WRG) was a defining chapter in my journey as a robotics enthusiast. Alongside my teammates Darel Balmes, Jake Laurence Arcega, and Justin Carl Mercado, we dedicated three months of intense preparation for the competition held from November 16 to 19. Guided by our coaches, Ma'am May E. Taguinod and Ma'am Rosanna Arellano, and mentored by former international competitors Jacob and Roderick Alo, we navigated the challenges of designing, building, and perfecting our robots.

Despite facing setbacks, particularly with my Programmable Line Tracing (PLT) robot, our persistence paid off as we achieved a fifth-place finish in the 4x4 football category, earning a medal and celebrating the fruits of our hard work. This portfolio captures the highs and lows of this remarkable experience, reflecting the skills, teamwork, and determination that defined our participation in the WRG.

Acknowledgement

I extend my heartfelt gratitude to the following individuals who have played integral roles in the success of my journey in the World Robotics Games:

To **Ms. May E. Taguinod** and **Ms. Rosanna Arellano**, our dedicated coaches, for their tireless guidance and unwavering support throughout the intense preparation and competition phases.

To **Jacob** and **Roderick Alo**, former international competitors, for generously sharing their expertise and mentorship, which greatly contributed to our understanding and performance in the competition.

To my teammates, **Darel Balmes**, **Jake Laurence Arcega**, and **Justin Carl Mercado**, for their camaraderie, teamwork, and determination in overcoming challenges together.

To the **organizers** and **volunteers** of the **World Robotics Games**, for providing us with the opportunity to showcase our skills and compete on a global stage.

To our **families**, **friends**, and **supporters**, for their endless encouragement and belief in our abilities.

And to our almighty **God**, for His grace, blessings, and guidance throughout this remarkable journey. With His divine presence, we found strength, courage, and inspiration to persevere and achieve our goals.

Together, you have all been instrumental in shaping this unforgettable experience, and for that, I am truly grateful.

Letter to the Readers

Dear Readers,

This portfolio encapsulates the remarkable journey and experiences of our team during our participation in the World Robotics Games (WRG). Through these pages, we invite you to join us as we recount the highs, lows, and invaluable lessons learned throughout this exhilarating competition.

Within these narratives, reflections, and analyses, you will find a vivid portrayal of our collective journey—from the meticulous preparations to the electrifying moments of competition. Each entry offers a glimpse into the dedication, teamwork, and determination that fueled our quest for success on the global stage of robotics.

As you delve into these pages, we hope you will be inspired by our passion for innovation, our resilience in the face of challenges, and our unwavering pursuit of excellence. May our experiences serve as a source of motivation for aspiring robotics enthusiasts and a testament to the boundless possibilities that await those who dare to dream and strive for greatness.

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INTRODUCTION

The World Robotics Games (WRG) is a prestigious international competition that brings together young minds from around the globe to showcase their skills and creativity in robotics. Held from November 16 to 19, this event challenges participants to design, build, and program robots to compete in various categories, promoting innovation and technical excellence.

We were part of a larger team representing the division of Batangas. Our group consisted of four qualified athletes: Darel Balmes, Jake Laurence Arcega, Justin Carl Mercado, and myself, Jhon Mhar Salapare. Our collective efforts and collaboration with other teams from our division enriched our experience and provided a supportive environment for tackling the challenges of the competition.

Our primary objective in participating in the WRG was to push the boundaries of our technical knowledge and abilities. We aimed to not only compete but also to learn from other talented individuals and teams, enhancing our skills in robotics and programming. Our specific goals included mastering the Programmable Line Tracing (PLT) and 4x4 football categories, and to represent our school and country with pride and determination.

PREPARATION PHASE



Team Formation

Our journey began with the formation of a dedicated team within the division of Batangas, comprising Darel Balmes, Jake Laurence Arcega, Justin Carl Mercado, and myself, Jhon Mhar Salapare. With the guidance of our coaches, Ma'am May E. Taguinod and Ma'am Rosanna Arellano, and the mentorship of former international competitors Jacob and Roderick Alo, we embarked on an intensive preparation phase. Each team member was assigned specific roles based on their strengths and expertise, ensuring a well-rounded and cohesive unit ready to tackle the challenges ahead.

Brainstorming and Planning

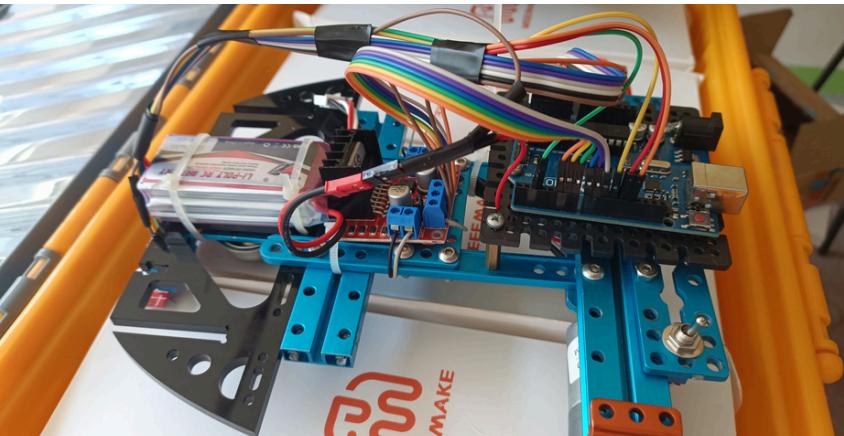
The first month was dedicated to brainstorming and planning. We discussed the requirements for our categories—Programmable Line Tracing (PLT) and 4x4 football—and began conceptualizing our robots. We focused on identifying the parts we needed and the design strategies that would give us a competitive edge. This phase involved a lot of research and discussions, as we sought to understand the intricacies of each category and plan our approach meticulously.



Design and Development

With a solid plan in place, we moved on to the design and development phase. I focused primarily on the PLT robot, which required precise coding and intricate design to navigate complex lines. Meanwhile, I also started preliminary work on the 4x4 football robot, which was relatively simpler as it was remote-controlled.

PREPARATION PHASE

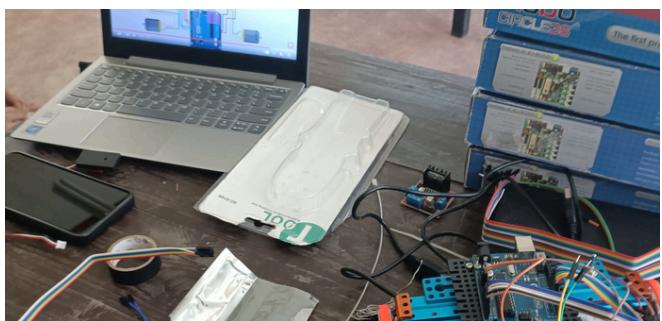


Prototyping and Testing

Prototyping began in the second month. The initial build of my PLT robot presented numerous challenges, particularly with the coding and tuning required for precise navigation. The complexity of programming the robot to follow lines accurately necessitated multiple iterations and continuous adjustments.



During this period, our team faced significant resource constraints. To overcome this, we reached out to other schools within our division for support. We borrowed essential parts, such as ATX2 motherboards from Conde Labac School, and additional components from other supportive institutions. This collaboration was crucial in ensuring we had the necessary resources to develop competitive robots. It underscored the importance of community and cooperation in achieving our goals.



The support from these schools allowed us to focus on optimizing our robots' functionality. I spent countless hours refining the PLT robot, troubleshooting coding issues, and adjusting the hardware to ensure it could handle the intricate line-tracing tasks. Simultaneously, I worked on the 4x4 football robot, ensuring it was responsive and agile enough for the competition.

PREPARATION PHASE



By the third month, our efforts were paying off. The continuous testing and adjustments led to significant improvements in the robots' performance. Just before our scheduled tune-up practice sessions, I successfully tuned my PLT robot, which was a significant milestone. The tune-up games were crucial as they provided a simulated competition environment, allowing us to evaluate our robots under pressure and make necessary adjustments.

To maximize our efficiency, I created a practice mat that simulated the competition environment. This proactive approach allowed me to test and refine the robot's performance consistently. By replicating the actual competition conditions, I could better understand how the robot would behave and identify specific areas needing improvement.



During the tune-up games, I had the opportunity to test my PLT robot extensively. Unfortunately, due to scheduling conflicts, there were no other competitors in the PLT category during our practice. This lack of direct competition meant I had to rely heavily on self-assessment and feedback from my mentors, making the tuning sessions even more critical. Despite this, the tune-up games provided valuable insights into the robot's performance, highlighting areas for further refinement.

PREPARATION PHASE

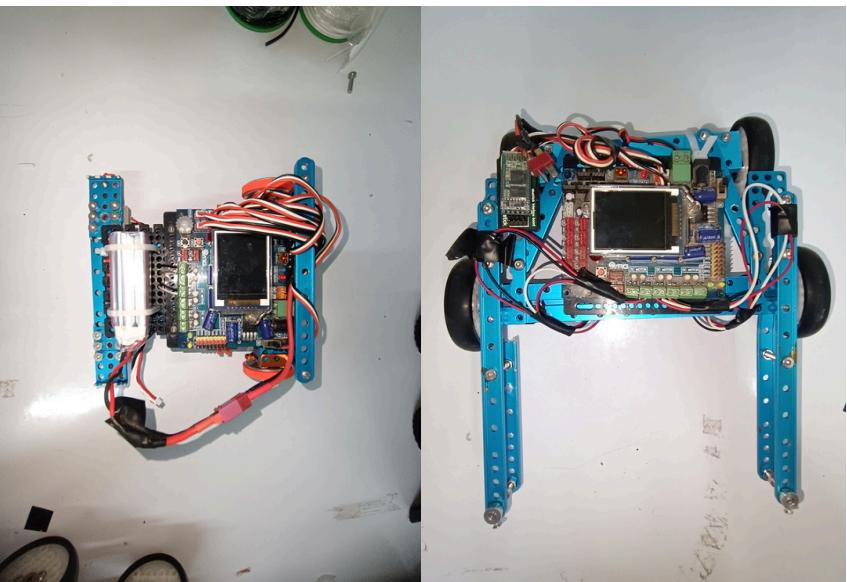


Figure 1. Final Robot Output

Additionally, we gathered at the division office for a final review and to ensure all logistical details were in place. This included coordinating our travel arrangements and verifying that all documentation and materials were accounted for.

The meticulous preparation phase, from initial planning and prototyping to the tune-up games and final adjustments, laid a strong foundation for our performance at the World Robotics Games. This period was marked by intense collaboration, continuous learning, and a relentless pursuit of excellence, embodying our commitment, resilience, and the spirit of teamwork.

As the competition date approached, our focus shifted to final preparations for our departure to Taiwan. We gathered all necessary equipment and spare parts, ensuring readiness for any technical issues that might arise during the competition. This included assembling a comprehensive toolkit, packing extra batteries, sensors, and replacement parts for each robot. We also conducted final checks on all our robots, ensuring they were in optimal condition for the competition. The Figure shows that is a photograph of our final robot, ready for the competition:



SCHEDULE



Update November 10th, 2023

The competition spanned four days, from November 16 to 19, packed with various events and activities. Each day was meticulously planned, with competitions scheduled for different categories and age groups. The schedule was designed to maximize participation and allow teams ample time to prepare and compete in their respective events.

Our team's schedule was particularly busy, with back-to-back competitions in the PLT (Programmable Line Tracing) and 4x4 football categories. We had to balance our time between calibrating our robots, participating in practice matches, and attending mandatory briefings and meetings.

Despite the tight schedule, we approached each day with enthusiasm and determination, eager to showcase our skills and represent our school and country with pride.

VENUE AND PLACE



The WRG took place at the National Taiwan Science Education Center, a state-of-the-art facility in Taipei. The venue was equipped with cutting-edge technology and provided an ideal setting for showcasing our robots' capabilities. Spread across multiple halls, the competition area was bustling with activity, with teams from different countries displaying their innovative creations. The vibrant atmosphere and camaraderie among participants added to the excitement of the event.

COMPETITION EXPERIENCE



Arrival and Orientation

Arriving in Taiwan, our excitement was palpable. The World Robotics Games (WRG) venue was a hub of activity, filled with teams from around the globe. Upon our arrival, we were accommodated at the Boutech Hotel, a comfortable and conveniently located establishment. The hotel provided us with the perfect environment to relax and prepare for the competition.



Our first day involved an orientation session where we were briefed on the schedule, competition rules, and facilities. The orientation also included a tour of the venue, giving us a chance to familiarize ourselves with the layout and prepare for the upcoming events.

Setup and Calibration

On the first official day of the competition, we set up our workspace and began the crucial task of calibrating our robots. For the PLT (Programmable Line Tracing) category, this meant adjusting sensors and fine-tuning the coding to adapt to the competition mat's specific characteristics. This stage was critical to ensure our robot's optimal performance. We spent several hours testing and retesting our robot on the practice mat, making minute adjustments to enhance its precision and reliability.



COMPETITION EXPERIENCE

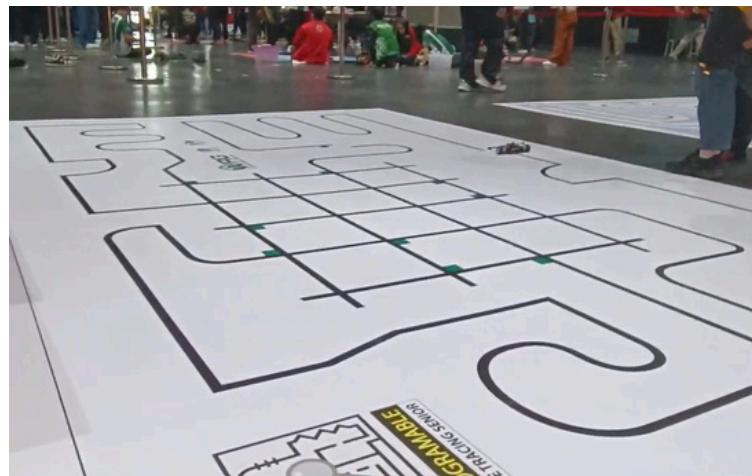
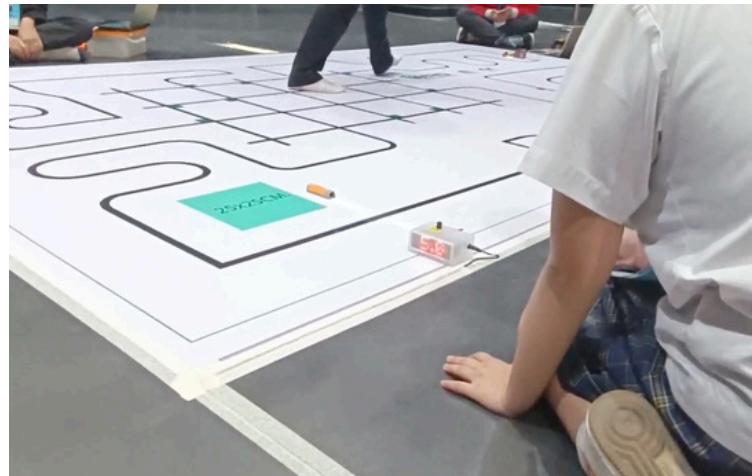


Programmable Line Tracing (PLT) Competition

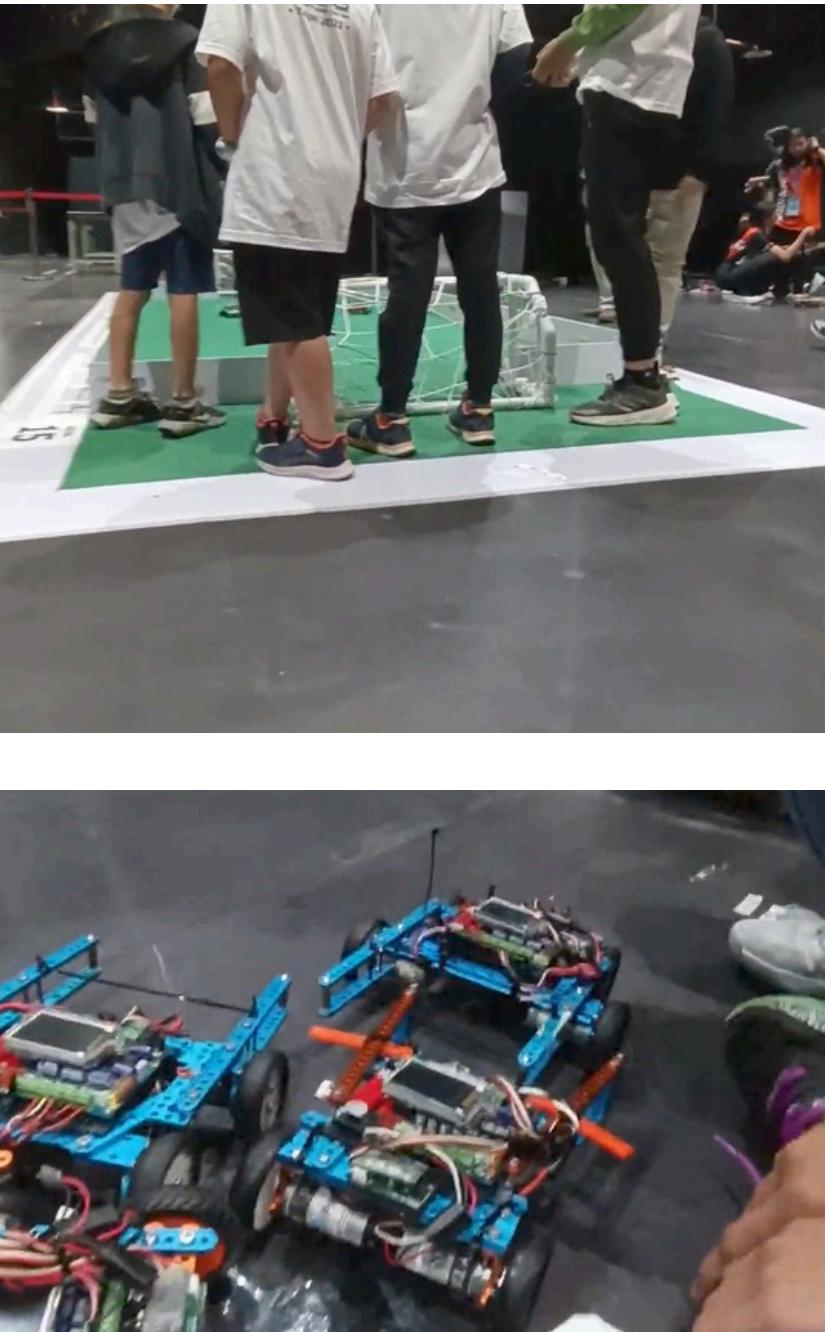
The PLT competition was one of the most challenging events. The objective was for our robot to navigate a complex path autonomously, relying solely on its programming and sensors. Despite our extensive preparation, the competition environment posed new challenges. The mat's surface and lighting conditions differed slightly from our practice environment, causing our robot to occasionally swerve off course.

Throughout the competition, we remained vigilant, making quick adjustments during the allowed calibration periods. Unfortunately, despite our best efforts, our robot did not achieve the desired level of accuracy. It struggled to maintain a consistent path, and we did not place as high as we had hoped in this category. This experience highlighted the importance of adaptability and quick problem-solving in a competitive setting.

For the 4x4 football category, calibration involved ensuring that the robot's remote control responsiveness and agility were at peak performance. We practiced maneuvers and tested the robot's interaction with the football, focusing on speed and accuracy. Our goal was to ensure that the robot could effectively compete in fast-paced, dynamic scenarios.



COMPETITION EXPERIENCE



4x4 Football Competition

The 4x4 football competition was an exhilarating experience. Our robot was pitted against those of other teams in a series of matches. Held at Banahes School, the competition was intense, with robots darting across the field, trying to outmaneuver each other and score goals. Our robot performed admirably, displaying impressive speed and agility.

Each match was a test of strategy and coordination, as we navigated our robot to intercept the ball and drive it towards the opponent's goal. Despite facing some tough competitors, our team's robot consistently demonstrated robust performance. We celebrated every goal and quickly analyzed every setback to improve our strategy.

By the end of the competition, our efforts paid off. We secured fifth place in the 4x4 football category, earning a medal and a sense of accomplishment. This achievement was a testament to our hard work, teamwork, and the effective mentorship we received.

POST-COMPETITION REFLECTIONS



Beyond the WRG awards, we were also recognized by our local community. The barangay of Simlong honored us with certificates of appreciation and participation, acknowledging our efforts and success on the international stage. These recognitions were deeply gratifying and highlighted the support and pride of our community in our achievements.

Recognition and Awards

Our participation in the World Robotics Games (WRG) was a rewarding experience that culminated in several recognitions and awards. During the awards ceremony, we were honored on stage for our achievements. I received the 5th Honorable Mention in the Programmable Line Tracing (PLT) category, ranking 11th overall. Additionally, our team secured fifth place in the 4x4 football category, earning us a prestigious medal. These accolades were a testament to our hard work, dedication, and perseverance throughout the competition.



Participating in the WRG was not just about competition; it was also a significant opportunity for **personal growth**. Throughout the preparation and competition phases, I developed several skills that will serve me well in the future:

- Technical Skills: My understanding of robotics, programming, and problem-solving improved significantly. The hands-on experience of building and fine-tuning robots was invaluable.
- Time Management: Balancing preparation, schoolwork, and personal life taught me effective time management and prioritization.
- Resilience: Facing setbacks and overcoming them instilled a sense of resilience and determination. I learned to remain calm under pressure and to keep pushing forward despite challenges.

CONCLUSION



Summary of the Experience

Participating in the World Robotics Games (WRG) was an unforgettable journey filled with learning, challenges, and triumphs. From the rigorous preparation phase, where we meticulously designed, built, and tested our robots, to the intense days of competition at the National Taiwan Science Education Center, every moment was a testament to our hard work and dedication. Our team, representing the division of Batangas, faced numerous obstacles, particularly in the Programmable Line Tracing (PLT) category, but our perseverance and adaptability allowed us to compete effectively. Securing a fifth place in the 4x4 football category and earning multiple recognitions were the highlights of our experience, affirming our efforts and the support from our community.

Final Thoughts

The World Robotics Games provided invaluable insights that extended beyond robotics. It taught us resilience, teamwork, and continuous improvement. Competing with brilliant minds from around the world inspired us to push our capabilities and embrace lifelong learning and innovation.

Our achievements, including medals and certificates, were a source of immense pride for us, our school, and our community. The recognition from the barangay of Simlong and the support from our mentors and peers underscored the importance of community in achieving success. We are more determined than ever to continue our pursuits in robotics and technology. The skills and lessons from the WRG will guide us in future endeavors. We are eager to mentor and inspire the next generation of robotics enthusiasts, sharing our experiences and fostering innovation and collaboration.

In conclusion, the WRG experience was transformative. It challenged us, taught us, and made us better individuals and team members. We are grateful for the opportunity and look forward to future successes, both on and off the competition stage.

APPENDICES

CERTIFICATE OF RANKING



PHILIPPINE ROBOTICS TEAM - CERTIFICATE OF RANKING

This is to certify the awards received by the following delegate to the 2023
World Robot Games Taipei held on the 16th to 19th November 2023 at the
National Taiwan Science Education Center, Taipei City, Taiwan.

JHON MHAR R. SALAPARE

5th Honorable Mention - Programmable Line Tracing


Anthony Y. Gabitan
WRG President



APPENDICES

CERTIFICATE OF PARTICIPATION



PH-084

CERTIFICATE OF PARTICIPATION

This certificate is proudly awarded to

Salapare Jhon Mhar

for participating in the

World Robot Games 2023

held on November 16th - 18th, 2023
at National Taiwan Science Education Center, Taipei.



MR. ANTHONY GABITAN
WRG PRESIDENT

APPENDICES

CERTIFICATE OF APPRECIATION

