JAMES RAPHAEL TIOVALEN

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EDUCATION

Singapore University of Technology and Design (SUTD)   **Singapore**
- Bachelor of Engineering (Engineering Product Development), Honours   **May 19 to Present**
- Preferred Focus Track: Robotics
- Expected Date of Graduation: August 2022

ACADEMIC PROJECTS & SELF-INITIATED PROJECTS

Singapore University of Technology and Design   **Singapore**
V2X Implementations, Team Coordinator & Software Specialist   **Sep 19 to Present**
- Coordinating a team of 4 in studying and implementing the applications of V2X devices in real-life vehicles.

Olethros Bot   **Singapore**
Chief Developer   **Sep 19 to Present**
- Developing a Telegram Bot in Python with miscellaneous commands for my current SUTD Class. Utilized MongoDB Atlas for database management and Microsoft Azure for cloud deployment.

OpenSUTD Landing Page   **Singapore**
Main Developer   **Sep 19 to Oct 19**
- Developed the landing page for OpenSUTD, an open-source movement dedicated to build a community in SUTD that embraces open sharing and collaboration. Utilized HTML, CSS and JavaScript to achieve a clean and elegant look for the webpage.

The Spread Bot   **Singapore**
Chief Developer   **Mar 19 to Sep 19**
- Developed a Telegram Bot in Python for The Spread, a café/food bar in NUS Business School, with order and payment capabilities. Utilized PostgreSQL for database management and Heroku for cloud deployment.

WhiteHacks@SG   **Singapore**
Team Leader   **Feb 18**
- Participated in a 2-day cybersecurity workshop and penetration-testing competition.
- Managed to be in the top 10 out of about 50 groups (Team //TODO).

Energy Innovation Challenge   **Singapore**
Team Leader   **May 17 to Jul 17**
- Designed a solar thermophotovoltaic cell prototype as a proof of concept.
- Increased the efficiency and power output of a solar PV cell by about 15% by retrofitting thermoelectric cells to the cell's posterior.

Arduino Weather Station Workshop Competition   **Singapore**
Software Developer   **Mar 17**
- Assembled a weather station as a team of 3 from the provided components.
- Wrote Arduino code for the data collection of weather conditions around the venue.
- Obtained 12th place in terms of accuracy.

CO-CURRICULAR ACTIVITIES

SUTD Organisation of Autonomous Robotics   **Singapore**
Vice-President   **Jun 19 to Present**
- Leading the organization of about 70 people strong together with the President with the objective of nurturing a committed robotics community by building skills to take on industry projects.
- Supervising the day-to-day operation and directing the culture, vision and mission of the club.
- Assisting the President in delegating work amongst an Executive Committee of 7 individuals.
- Working closely with the Secretary in settling administrative matters of the club.
- Monitored the logistics flow and manned MOMObot, an autonomous ground vehicle, for Singapore Maker Extravaganza 2019, an external event at which SOAR showcased our club projects.
- Assumed the position of Logistics IC for SUTD BuildSomething 2019, a week-long SolidWorks & Arduino workshop course held in collaboration with SUTD Entrepreneurship Centre, with the end product of a line-tracing robot.
- Manned Jessica, a robot barista, at Singapore MINDEF Innovation Symposium 2019, which was held at SUTD, to serve coffee for about 50 personnel.
- Improved the skills and proficiencies of about 30 members of the club by organizing 6 workshops that cover robotics and other technical concepts (SolidWorks, Arduino, PID, Git, Linux and ROS).
- Leading a project team in building a Stanford Doggo with a stretch goal of implementing autonomous navigation for the Doggo.

- Led a team of 10 in building a working 7 kg Linorobot with dimensions of 300x215x102mm, equipped with a ROS autonomous navigation stack.

WORK EXPERIENCES

Mathvision Enrichment Centre Pte. Ltd.   **Singapore**
Assistant Teacher   **Mar 19 to May 19**

- Taught Physics for the IB (SL and HL), Singapore-Cambridge GCE A-Level (H2), AT (Computational), EDEXCEL AS Level, EDEXCEL International GCSE (9-1) - Science Double Award, SAT and Cambridge IGCSE (Pure and Co-Science) syllabi.
- Taught Mathematics for the IGCSE - CIM (Core and Extended) and UKMT (JMC) syllabi.
- Rated by **75%** of students taught as **Excellent** and by **22%** of students taught as **Good**. The other 3% did not submit a rating.
- Had mastery of the content and ability to explain clearly and patiently.

ADDITIONAL INFORMATION

- Technical Skills:
- ROS
- C/C++
- Python
- JavaScript
- HTML/CSS

- Language Proficiency:
- English
- Indonesian

- Interests:
- Full-Stack Development
- Robotics
- Design Thinking
- Teaching