

Tsay Lok Wai Jacky

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Birth date: 16th September 1995



Education

- 2017-2022 Kyoto University
 - PhD in Agricultural Science
- 2013-2017 Hong Kong University of Science and Technology
 - BEng in Electronic Engineering

Related Experience

- 2017-2018 Summer exchange (Tsinghua University and Peking University)
- 2015-2016 Study Abroad
 - United States (Rutgers, The State University of New Jersey) and Japan (Nagoya University)
- 2014-2015 HKUST Robotics Team
 - Position: Hardware Secretary and Competition Team Member
 - Awards: 1st Runner Up in Asia-Pacific Robot Contest (ABU Robocon) 2015 Indonesia,
Champion of Robocon Hong Kong, Champion of the 6th Robot Design Contest of HKUST
 - Duty: Designing schematics and PCB, Building the hardware systems
- 2013-2014 Computer Engineering Students' Society, HKUST Students' Union
 - Position: Promotion and Publication Secretary
 - Duty: Organizing and promoting large events, Designing posters and banners

Service Position

- 2018-2020 Teaching Assistant of the Joint School Bioengineering Class
 - (National Taiwan University, University of Tsukuba and Kyoto University)
- 2013-2017 Teaching Advisor of ENGG1200 - Engineering Team Design Experience: Airship
 - Duty: Supervising students, Designing laboratory manuals

Skills

Good knowledge of: Altium Designer, Eagles, Adobe Illustrator, C language, Python language

Fair knowledge of: Java language, Solidworks, VHDL, Pspice, Solidworks, Matlab, Cadence

Languages: Cantonese, English, Mandarin, Japanese

Research project

2018-2022 Positioning system for cooperative control of small distributed robots by spectral spread sound
_ JSPS KAKENHI, Grant Number 18H05364.

Scholarship

2019-2022 Monbukagakusho Honors Scholarship
 Support for Pioneering Research Initiated by the Next Generation
_ JST SPRING, Grant Number JPMJSP2110

2017-2019 Asian Future Leaders Scholarship Program

Award

2020-2021 Yanmar's prize-winning student essays (outstanding award of top 10)

Publication

Peer Reviewed Journal:

Tsay, L.W.J., Shiigi, T., Huang, Z., Zhao, X., Suzuki, T., Ogawa, Y., Kondo, N., 2020. Temperature-Compensated Spread Spectrum Sound-Based Local Positioning System for Greenhouse Operations. IoT, 1, 147-160. <https://doi.org/10.3390/iot1020010>

Tsay, L. W. J., Zhao, X., Shiigi, T., Huang, Z., Suzuki, T., Ogawa, Y., & Kondo, N., 2022. Static and dynamic evaluation of acoustic positioning system based on TDMA & FDMA for robots operating in a greenhouse. International Journal of Agricultural and Biological Engineering. [Accepted for publication]

Tsay, L. W. J., Huang, Z., Shiigi, T., Nakanishi, H., Tientadakul, R., Suzuki, T., Shiraga, K., Ogawa, Y., & Kondo, N., 2022. Acoustic based local positioning system for dynamic UAV in GPS-denied environments. Measurement. [In Review]

Huang, Z., Shiigi, T., Tsay, L.W.J., Nakanishi, H., Suzuki, T., Ogawa, Y., Kondo, N., 2021. A sound-based positioning system with centimeter accuracy for mobile robots in a greenhouse using frequency shift compensation. Computers and Electronics in Agriculture, Volume 187. <https://doi.org/10.1016/j.compag.2021.106235>

Tientadakul, R., Nakanishi, H., Shiigi, T., Huang, Z., Tsay, L. W. J., Kondo, N., 2021. Spread Spectrum Sound with TDMA and INS Hybrid Navigation System for Indoor Environment, J. Robot. Mechatron., Vol.33, No.6, pp. 1315-1325. <https://doi.org/10.20965/jrm.2021.p1315>

Huang, Z., Omwange, K.A., Tsay, L.W.J., Saito, Y., Maai, E., Yamazaki, A., Nakano, R., Nakazaki, T., Kuramoto, M., Suzuki, T., Ogawa, Y., Kondo, N., 2021. UV excited fluorescence image-based non-destructive method for early detection of strawberry (*Fragaria × ananassa*) spoilage. Food Chemistry, Volume 368. <https://doi.org/10.1016/j.foodchem.2021.130776>

Huang, Z., Tsay, L.W.J., Zhao, X., Fukuda, H., Shiigi, T., Nakanishi, H., Suzuki, T., Ogawa, Y., & Kondo, N. , 2020. Position and orientation measurement system using spread spectrum sound for greenhouse robots. Biosystems Engineering,198, 50-62, Biosystems Engineering. <https://doi.org/10.1016/j.biosystemseng.2020.07.006>

Huang, Z., Tsay, L. W. J., Shiigi, T., Zhao, X., Nakanishi, H., Suzuki, T., Ogawa, Y., & Kondo, N., 2020. A Noise Tolerant Spread Spectrum Sound-Based Local Positioning System for Operating a Quadcopter in a Greenhouse , Sensors , 20(7)1-15 、 Sensor, Volume 20. <https://doi.org/10.3390/s20071981>

Conference:

XXXVIII CIOSTA & CIGR V International Conference, Rhodes Island, Greece, 24-26 June, 2019. ○Lok Wai Jacky Tsay, Sound Velocity Estimation of Spread Spectrum Sound Positioning System in Greenhouse (Oral presentation)

2019 International Joint Conference on JSAM, SASJ and 13th CIGR VI, Sapporo, Japan, 3-6 September 2019. ○Lok Wai Jacky Tsay, Compensation Method for Spread Spectrum Sound-based Local Positioning System in Greenhouse (Oral presentation)

2021 Annual Conference on JSAM, Hakata, Japan, 13-15 September 2021. ○Lok Wai Jacky Tsay, A Strawberry Shelf-Life Prediction Method Based on Ultraviolet Excited Fluorescence Image (Oral presentation)