Tsay Lok Wai Jacky

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Address: Flat B, 8/F, Block 1, Laguna City, Kowloon
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)