Vincent, Kuo-Chun Huang 黃國郡

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Professional Summary

1. 2021 graduated student from master of NTU EE with 2 years industry-academia cooperation experience in the area of Robotic Path Planning and Control actively seeks for a **Software Position**
2. Published an article on international journal as a 1st author about constructing a system for robotic path planning
3. Experienced in several electric control and computer engineering projects

Awards & Publications

【Special Performance】

2019.2	Presidential Award	1st
2018.9	Presidential Award	1st
2018.2	Presidential Award	3rd

【Certification】

2018.1 Automation Engineer
By Taiwan Automation Intelligence and Robotics Association (TAIROA)

【Conference】

Kuo-Chun Huang , Po-Yu Lin, Jie Wang, Feng-Li Lian, “ **Cyber-Physical Simulation Platforms for Generating Rich Data and Evaluating Control Tasks** ,” in Proceedingsof the 17th International Conference on Automation Technology, Hualien, Taiwan, Nov. 2020

Kuo-Chun Huang, Feng-Li Lian, “ **An Obstacle Avoidance System Using Boustrophedon Motions and Rapid Voronoi Diagram with Replanning Mechanism in Irregular Environment for Outdoor Robot Systems** ,” in Proceedings of CACS International Automatic Control Conference, Chiayi, Taiwan, Nov. 2021(Submitted)

【Journal】

Kuo-Chun Huang, Feng-Li Lian, Chien-Tung Chen, Chung-Hou Wu and Chao-Cheng Chen “ **A Novel Solution with Rapid Voronoi-grid based Coverage Path Planning in Irregular Environment for Robotic Mowing Systems** ,” International Journal of Intelligent Robotics and Applications (Accepted on 08/11, 2021)

Projects

- PID Feedback - Table Tennis Robot (Matlab, Arduino)
  Constructed a 92% stable path and curl for athlete to pratice table tennis based on GUI system
  X 2 DETAIL>

- Cyber-Physical System for Robotic Arm (C#, Unity)
  Deliverd a Cyber-Physical System with 70% accuracy to control robotic arm (UARM) by Gesture Movement using Kinect Images through software interrupts between Unity and pratical world
  X 2 DETAIL>

- Embedded System - Intelligent Rubbish (C)
  Established a Intelligent Rubbish with 95% accuracy based on STM32 Arm Cortex MCUs through software interrupts and timer
  X 2 DETAIL>

- 2D Adventure Game (C#, Unity)
  Built a 2D Adventure Game and accomplished each of API, including attack, timing, UI/UX, the motion of monsters
  X 4 DETAIL>

More Portfolio (CAD)

Education

National Taiwan University (NTU)
Master of Science in Electrical Engineering
2019.9 - 2021.8
GPA : Overall : 4.04 / 4.3
Courses: Algorithm, Operating System, Machine Learning, Computer Vision, Digital Signal Processing Game Programming

National Chiao Tung University (NCTU)
Bachelor of Mechanical Engineering
2015.9 - 2019.1 (Early Graduation)
GPA : Overall 3.92 / 4.3 ; Last 60 Credits : 4.18 / 4.3
Courses: Microcomputer, Image Processing, Robotics

Work Experience

【Full-Time Job】

Galaxy Software Services
Assistant Programming Engineer
2019.01 - 2019.05 (Taipei, Taiwan)
1. Constructed the website form and developed UI/UX based on JavaScript(jQuery), Angular, java, kendo, bootstrap
2. Finished the basic function, Create, Read, Update, and Delete (CRUD) through Ajax

【Intenship】

URSrobot
Industry–Academia Collaboration
2019.10 - 2021.07 (Taipei, Taiwan)
1. Developed an Obstacle Avoidance System for outdoor robot (mower) using Boustrophedon motions and the Rapid Voronoi diagram combined with Feedback Coverage Path Planning algorithm (Python) based on GPS, IMU, Odometry on Robot Operating System (ROS)
2. Experimented more than 227 cases, including National Theater, Daan Forest Park, and Juming Museum.
3. Achieved 3x quicker on computation time and 1.2x more efficient compared to the existing solution from international journal (BA*, BCD, TWPS)

Syntec
2017.07 (Hsinchu, Taiwan)
2017.08 (Suzhou, China)
1. Implemented a production line automation project based on PLC, MACRO, eHMI for workpiece shipment inspection
2. Distributed cable for robot arm, three-axis measuring machine and Computer Numerical Control (CNC)

Technical Skills

Programming	Python, Matlab, C/C++/C#, Java, HTML, JavaScript, CSS, Angular, jQuery
Others	Linux(Ubuntu), Git, ROS, Pytorch, SolidWorks, AutoCAD