LI-KANG (TONY) WENG

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EDUCATION

The University of Texas at Dallas — Dallas, USA
Master of Science in Computer Science — (Expected) 05/2021

Udacity — Taipei, Taiwan
Nanodegree in Self-Driving Car Engineer — 02/2018
- **Projects** Vehicle Tracking, Lane Line Detection, Traffic Sign Classification, Driving Behavior Cloning

National Taiwan University (NTU) — Taipei, Taiwan
Master of Science in Bio-Industrial Mechatronics Engineering (BIME) — 09/2015
- **Dissertation** Sensor Fusion of Stereo Vision and Radar Systems for Vehicle Safety Application

Bachelor of Science in BIME — 06/2013
- **Topic** Quantitative Evaluation of the Floral Shape Variation in *Sinningia Speciosa* Domestication

TECHNICAL SKILLS

Programming C++, Java, JavaScript, Python, Git, OpenCV, AWS, Qt Creator, Unity, AutoCAD
Robotic Components ROS, IMU, stereo camera, Nvidia JETSON TX2 Developer Board, Arduino

WORK EXPERIENCE

Software Development Engineer Intern, Amazon Web Services, Inc. — Dallas, USA
- Added CloudWatch Events to AWS EC2 Fleet to let customers be aware of the states of their fleets and take actions to fulfill their business demands — 05/2020 - 07/2020

Developer, GOROX Co. Ltd. — Taipei, Taiwan
- Synced body motion to the avatar in **Unity** and developed a real-time GUI — 12/2018 - 07/2020

Research Assistant, National Taiwan University — Taipei, Taiwan
- Built a tracked robot for surveillance on a chicken farm. The information and the manipulation of the robot were visualized on a website and the algorithms are developed using ROS (Robot Operating System) — 03/2019 - 06/2019

Software Engineer, HTC Corp. — Taipei, Taiwan
- Developed real-time **visual-inertial SLAM** algorithm using C++ on ARM platform — 01/2017 - 07/2018
- Designed GUI and tools for real-time data visualization and KPI measurement to eliminate tedious labor and quantitate tracking performance

RELEVANT PROJECTS AND RESEARCH

Sensor Fusion Project, Biophotonics and Bioimaging Laboratory (BBLab), NTU — 05/2013 - 09/2015
- Constructed **sensor fusion based** vehicle safety real-time system capable of obstacle detection, tracking and collision avoidance algorithms using **stereo vision** and **millimeter-wave radar sensor**
- Overhauled algorithms and analyzed the performances to eliminate false detection of algorithm
- Eliminated measurement error of depth information from 2.4% to **0.7%** using fused information
- Enhanced obstacle matched rate from 82.1% to **89.8%** using fused information
- Accelerated **2.8** times in the correspondence matching method using CUDA with OpenCV

The 9th Utechzone Machine Vision Prize, Utechzone Inc. — 02/2014 - 08/2014
- Awarded **2nd prize** of the overall competition and developed fall detection algorithm including background removal, feature extraction, object tracking, and motion detection under complicated scenarios (light variation, overlap)

Floral Shape Variation Study, BBLab, NTU — 08/2012 - 02/2014
- **Accelerated process speed** and **eliminated measurement error** by developing a semi-automatic program with GUI using image processing methods for flower landmark acquisition
- Analyzed shape variation of *Sinningia speciosa* from landmarks identified on 2D images

Advanced Technology Project in Vehicle Safety: Intelligence and Human Factors, ARTC — 05/2013 - 01/2014
- Refactored obstacle matching algorithm to optimize performance by speed-up around **30%**
- Eliminated measurement error by optimizing camera calibration on stereo vision
- Analyzed **path planning** algorithms to provide more realistic solution
- Designed GUI with concise information for user easy to understand environmental information

The 8th Utechzone Machine Vision Prize, Utechzone Inc. — 01/2013 - 08/2013
- Implemented feature of face recognition method and analyzed the performance with **78%** successful rate

SELECTED PUBLICATIONS

Ta-Te Lin, **Li-Kang Weng** and An-Chih Tsai. 2014. Object Tracking and Collision Avoidance Using Particle Filter and Vector Field Histogram Methods. Paper presented at ASABE. Paper No. 1906189, Montreal, Quebec City, Canada.