Yihung Yu

Mobile || Email || GitHub
+886 921605518 || henry840227@gmail.com || github.com/henrydsg

Interest: Autonomous Vehicle, Large-scale Distributed system
Objective: R&D position in the field of localization, planning, computer vision
Sponsorship or fully remote work required

SKILLS SUMMARY

- **Languages:** C++, Python, Matlab
- **Tools & Libs:** Docker, Git, CMake, GDB, Eigen, Ceres-solver
- **Platforms:** Linux, Android
- **Frameworks:** ROS

EXPERIENCE

Gallopwave Co. Taipei, Taiwan
Senior R&D Engineer *Nov 2020 - Feb 2022*

- **Inverse-depth Parameterization of Image Feature for Visual Inertial Odometry**: Designed and Implemented inverse-depth parametrization of image features and a easy-to-switch structure to rapidly test the performance of different types of parametrization.
- **SLAM Data Read/Write System**: Re-defined and Re-implemented a sensor data read/write library in C++ which is extremely fast for data seeking and traversing.
- **Playback Visualization Tool**: Designed and implemented a 3D, viewpoint-adjustable, fast, high-quality visualization tool for debugging in Unity framework.
- **Protection Level Estimation for Global Localization System on Commercial-level Sedan**: Designed and implemented a light-weight protection level estimation algorithm performing high integrity and fair availability.
- **Cross-platform Porting**: Modified existing CMake pipeline to make the cross-compiling process of the VIO system a one-click procedure.
- **CI/CD Pipeline**: Co-implement the CI/CD pipeline of the VIO system which can effectively detect any significant regression of the performance.

Kingwaytek Technology Taipei, Taiwan
R&D Engineer *Nov 2019 - Oct 2020*

- **LiDAR Localization**: Redesigned the pipeline of Autoware's NDT localizer to realize fully automated localization in several controlled environment with point cloud map.
- **MPC Waypoint Follower**: Refactored and tuned Autoware's MPC waypoint follower to run smoothly on a e-bus in several contorlled area.
- **Steering Angle Calibration**: Designed and executed a low-cost (less than 200 USD, no additional cost for repeating the experiment) experiment to acquire steering wheel - steering angle curve.

EDUCATION

University of California, Berkeley California, Berkeley
Master of Engineering - Mechanical Engineering *Aug 2018 - May 2019*
Selected Courses: *Intro to AI, Advanced Control System (Model Predictive Control), Linear Control System, Nonlinear Control System*

National Taiwan University Taipei, Taiwan
Bachlor of Science - Mechanical Engineering *Sep 2013 - June 2017*
Selected Courses: *Data Structure and Algorithms, Intro to Robotics, Advanced Dynamics*

VOLUNTEER EXPERIENCE

NTU Mechanical Engineering Student Association Taipei, Taiwan
Led and organized student session events and arranged activities of the department. *June 2015 - June 2016*