

Yihung Yu

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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:** 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 an 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 an electric bus in several controlled 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
Bachelor 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