

# FENG-YI LIAO

Email: fliao@ucsd.edu

## EDUCATION

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**University of California San Diego**

M.S., Electrical and Computer Engineering (Intelligent Systems, Robotics & Control)

United States

Sep. 2021 – Present

**National Chung Hsing University**

B.S., Bio-Industrial Mechatronics Engineering

Taichung, Taiwan

2016 – 2020

## PUBLICATIONS

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### Preprint

1. **Liao, F. Y.**, & Zheng, Y. (2022). Iterative Inner/outer Approximations for Scalable Semidefinite Programs using Block Factor-width-two Matrices. arXiv preprint arXiv:2204.06759 [PDF][CODE]

### Journal

1. Xu, A. Q., Luo, S. J., **Liao, F. Y.**, Chen, I. C., Chien, M. C., & Huang, K. Y. (2020). Development of a Novel Autoinspection System for Paddy Seed Early-germination Performance. Sensors and Materials, 32(11), 3647-3657 [PDF]

## RESEARCH EXPERIENCES

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**Scalable Optimization and Control (SOC) Lab, UCSD**

*Advisor: Prof. Yang, Zheng*

Oct. 2021 – Present

- Develop efficient algorithms for semidefinite programs (SDPs)

**Image and Signal Processing Lab, NCHU**

*Advisor: Prof. Kuo-Yi Huang*

July 2020 – Feb. 2021

- Developed machine vision systems to achieve agriculture automation

## AWARDS

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- NCHU Golden Key award (top 5% of class) 2020
- Second place award, smart agricultural robotic competition 2019
- NCHU Ching-O award, NCHU (top 5% of class) 2019
- NCHU Academic Excellence award (top 10% of class) 2018

## TEACHING EXPERIENCE

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**Teaching Assistant** at National Chung Hsing University

- **Artificial Intelligence of Things**, *Prof. Tshen-Chan Lin*

## SELECTED PROJECTS

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**Sensing and Estimation in Robotics**

- Implement **Particle Filter and Visual-Inertial SLAM**

**Semidefinite and Sum-of-squares Optimization**

- Implement **ADMM** for large-scale SDPs

**Convex Optimization**

- Implement **Coordinate descent, Dystra's projection algorithm, and ADMM**