

# Mr. Ziang Deng

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## Education Background

**University of California, Berkeley**

**08/2020-05/2021**

Major: Robotics and Autonomous Systems GPA: 3.92/4.0

Degree: **Master of Engineering**

*Core Courses: Advanced Control Systems, Experimental Advanced Control Design, Hybrid Systems and Intelligent Control*

**Nanjing Agricultural University**

**09/2016-06/2020**

Major: Mechanical Design Manufacturing and Automation, GPA: 3.91/4.5, Rank: 1/58

Degree: **Bachelor of Engineering**

*Core Courses: Advanced Mathematics, Digital Modeling, Mechanical Design, Mechatronics Technology.*

*Honors: National Scholarship (Top 1 out of 60 students)*

**11/2017**

## Publication & Patent

- Maohua Xiao, **Ziang Deng**, You Ma, et al. Ratings of Rice Leaf Blast Disease Based on Image Processing and Stepwise Regression[J]. *Applied Engineering in Agriculture*, 2019, 35(6):1037-1043.
- Maohua Xiao, You Ma, Zhixiang Feng, **Ziang Deng**, Shishuang Hou, Lei Shu, ZhiXiong Lu. Rice Blast Recognition Based on Principal Component Analysis and Neural Network, *Computers and Electronics in Agriculture* (ISSN: 0168-1699), August 2018, p. 482-490.
- Jingjing Kang, You Ma, Maohua Xiao, Zhixiang Feng, **Ziang Deng**, Sanqin Zhao. Rice Blast Recognition Based on Image Processing and BP Neural Network, *International Agricultural Engineering Journal* (ISSN: 0858-2114), March 2018, p. 250-256.
- Maohua Xiao, You Ma, **Ziang Deng**, Zhixiang Feng, Jingjing Kang, Shishuang Hou. A Method for Rice Blast Identification Based on Aerial Field Image, August 2021. No.: 2021071900616710.

## Research Experience

**Capstone Project: Robotics at home**

**09/2020- 05/2021**

*Position: Software developing leader*

- In charge of programming and build the system framework
- Integrate YOLO, A\*, DQN and control theories for robot path-finding
- Build simulation environment and finish tests

**Course Project of Advanced Control Design -Autonomous Drone Racing**

**10/2020-11/2020**

*Position: Team Member*

- Build a model for drone dynamics with cost and constraints
- Propose a Learning Model Predictive Control (LMPC) for autonomous drone racing.
- Simulate the racing process using Python.

**Graduation Project and Thesis - IoT System Design for Intelligent Electric Micro-tillage Machine for Facility Horticulture**

**11/2019-05/2020**

- Self-designed an IoT system for electric micro tiller combining Raspberry Pi, SenseHat, PyTorch
- Extraordinary personal thesis and extraordinary team thesis
- Designed an app for user and optimized the network accuracy to 90%.

**Development of Rice Disease Detection System Based on Android Image Recognition**

*Position: Team leader*

**03/2018-05/2019**

- Accomplished the image processing of rice blast through MATLAB
- Identified the blast disease by using various algorithms, including BP, SVM-BP, deep convolutional neural network, etc.
- Utilized stepwise regression method to achieve the level of rice blast classification
- Successfully finished image processing, and optimized the system interface through Android studio

#### **Shedyou Technology: Build a Greenhouse Think Tank Service System**

**03/2018-05/2019**

*Position: Key team member*

- Developed an APP using Android studio, to enable the SQL database connection, data acquisition, analysis, drawing and other functions on the Android terminal
- Employed deep learning methods to analyze environment data to provide farmers with pest and disease warning and water and fertilizer ratio management

## **Working Experience**

#### **Tesla Core Automation Engineering Team**

**06/2021-present**

*Position: Associate Control Engineer*

- Develop Tesla Standard Control Template and SCADA for autonomous manufacturing.
- Use Ignition to make programs for better human-machine interactions.
- Write PLC programs for DU EOL to control the working parts

#### **Nanjing SeetaTech Technology Co., Ltd**

**07/2019-08/2019**

*Position: Algorithmic intern of New Retail Department*

- Mainly responsible for designing an APP for food plate items detection and identification
- Adopted development board with NPU(neural network process units) to realize the functions
- Self-learned and used deep learning models including YOLO and ReID, successfully reduced the recognition time of single image from 1.8 seconds to 0.5 seconds

## **Competition Experience**

Provincial Extraordinary Team Graduation Thesis **06/2020**

Kyoto International Entrepreneurship Contest for University Students 2019, **First Prize** **05/2019**

2018 Jiangsu Association of Agricultural Science Societies 2<sup>nd</sup> Chuangxing Cup Innovation and Entrepreneurship Competition, **First Prize of Innovation Group** **10/2018**

“ Dingxiang-Chuangka Cup” Energy Conservation and Environmental Protection Creative Competition held by Jiangsu Energy Research Association, **First Prize** **09/2018**

2018 College Students' Entrepreneurship Competition in Jiangsu Province, **Silver Award** **07/2018**

The 8<sup>th</sup> East China College Students CAD Application Skills Competition, **Third Prize of Mechanical Engineering Drawing** **06/2018**

2018 National English Competition for College Students, **Third Prize for Brand C** **05/2018**

2017 “ Dongfanghong Cup” The 3<sup>rd</sup> National Intelligent Agricultural Equipment Innovation Competition for College Students, **National Second Prize** **12/2017**

The 14<sup>th</sup> Higher Mathematics Competition for Colleges and Universities in Jiangsu Province, **Second Prize of Undergraduate Level II Group** **06/2017**

## **Extracurricular Activities**

MIT “Artificial Intelligence and Robotics” International Certificate Program **01/2019-02/2019**

-Learned about artificial intelligence and robotics, and finished the class presentation

**Student Union** , Minister of Career Development Department **09/2017-06/2018**

-Organized a number of activities including Business Incubator Visit, Mock Interviews and etc.

-Obtained the title of “Outstanding Minister of the Student Union”

## **Skills**

**Computer skills:** Proficient in Python, MATLAB, AutoCAD, CREO; familiar with Java, Android.

**Hobbies:** Basketball, Table tennis, Go of 4 dan grading, Erhu of 10<sup>th</sup> level, Calligraphy of 4<sup>th</sup> level.