

# Yu-Cheng Deng

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## EDUCATION

- University of California, Davis, Davis, CA Sep. 2018 - Jun. 2020(Expected)
  - **Master of Science in Electrical and Computer Engineering**
  - GPA Overall (Currently): 3.88/4.00
- National Taipei University of Technology (NTUT), Taipei, Taiwan. Sep. 2014 - May. 2018
  - **Bachelor of Civil Engineering**
  - GPA Overall: 3.33/4.00, 159 credits

## RESEARCH EXPERIENCE

### University of California, Davis

Davis, CA

#### • Master Research

Apr. 2019 - Present

#### *Improvement in FLIm Visualization and its Applications*

- Apply algorithms to visualize fluorescent lifetime imaging (FLIm) data
- Build a tool/system using **MATLAB** for data visualization
- Investigate the approach for the generation of Real-time FLIm map

Advisor: Prof. Laura Marcu (Biomedical Engineering Department, UC Davis)

#### • Coursework Project

Jan. 2019 - Mar. 2019

#### *Human Following Robot Based on Reactive Algorithm for Safe Navigation*

- Build a simulation environment in **MATLAB/Simulink**
- Utilize **Simulink toolbox** and **MATLAB** function to simulate a human following robot (Pioneer 3-DX)
- Apply Biological obstacle-avoidance algorithm to robot and its sensors and analyze the performance of the robot

#### • Coursework Project

Jan. 2019 - Mar. 2019

#### *Improvement in Reinforcement Learning for Frogger Game*

- Regenerate the arcade game "Frogger game" using **Python**
- Apply the Q-learning algorithm to Frogger game and analyze its performance
- Exploit nearest neighbor interpolation approach to improve the performance of Frogger game

### National Taipei University of Technology

Taipei, Taiwan

#### • Senior Project

Jun. 2017 - Sept. 2017

#### *Care System for Pressure Ulcers Patient*

- Utilize the **Arduino** sensors to gauge major factors (humidity, temperature, pressure, etc.) in causing ulcers
- Employ Arduino Wi-Fi transmission to transfer data to **IoT** platform, **BLYNK** and **ThingSpeak**
- Use **MySQL** to transmit data to database
- Create webpage for Server and Client to achieve the close interaction between Server and Client

## WORKING EXPERIENCE

### Wintec Industries

Newark, CA

#### • Junior Test Engineer

Jun. 2019 - Aug. 2019

- Build a File Transfer Protocol (**FTP**) Server for productions lines to transmitting the log files from machines
- Write **C++/CLI** script to build a user-friendly Graphical User Interface (GUI) for operators to transfer log files
- Use **Raspberry Pi 4** and **Pi camera** with **Python** to create a tool to detect the productivity of Printed Circuit Board (PCB) with Moving-Object Surveillance approach and **Open CV**

### CHAIN MAY AUTOMATION CO., LTD.

New Taipei City, Taiwan

#### • Engineer Assistant

July. 2016 - Aug. 2016

- Aid engineer with testing LCD glass cutting robotic arm and replace its components
- Help logistic of mechanical components

Advisor: Mr. Lin (General Manager)

## SKILLS

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- Language skills:
  - Mandarin (native)
  - English (proficient)
- Programming Language:
  - Python
  - MATLAB/Simulink
  - C/C++
  - C++/CLI
  - R
  - HTML/CSS
  - Assembly Language
- Software skills:
  - Git
  - Linux-Ubuntu
  - Debian
  - MacOS
  - Visual Studio Code
  - Visual Studio
  - MySQL
  - Xcode

## COURSEWORK

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- Upper Division (National Taipei University of Technology)
  - **Image Processing Project, Signals and Systems, Digital Signal Processing, Control System**, Power Electronics, Electrical Machinery, Mechatronics, Power System, Communication System Lab, Microprocessor Lab, Applied Statistics
- Graduate Level (University of California, Davis)
  - Information Theory, Computer Science (Machine Learning), Linear System and Signal, Nonlinear System, Autonomous Robotics, Radiation Detector, Advanced Digital System, Uncertainty Experiment and Analysis

## LEADERSHIP EXPERIENCE

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### Taiwanese Graduate Student Association

### University of California Davis

- Vice President Apr. 2019 - Present
  - Get in touch with various organizations such as Taipei Economic and Cultural Office (TECO), Monte Jade West Science and Technology Association, NATEA
  - Hold events to promote the relationship of each student at UC Davis

### Student Association of EE Department

### National Taipei University of Technology

- Chief Executive Officer Sep. 2015 - Dec. 2016
  - Assist president with leading the union and supervising all the activities, events in EE department
  - Held 2016 EE summer camp as the General Coordinator
  - Held 2016 EE ball as the General Coordinator
  - Led 2016 EE cheerleader as the leader
- Minister of Secretary Department Sep. 2015 - Dec. 2016
  - Meeting minutes recording, schedule planning, file management
  - Representative of Association Evaluation Competition