JING YI. ZHANG

CURRENT ADDRESS

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PERMENANT ADDRESS

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EDUCATION

BOSTON UNIVERSITY, Boston, MA

- MS Electrical and Computer Engineering

Graduation(estimated):2025

COURSEWORK

- **1st year(fall 2023)**: Product Design in Electrical and Computer Engineering,Design by Software, Advanced Data Structures, Career Lab: Job & Internship Search for Master's Students

PURDUE UNIVERSITY, West Lafayette, IN

- BS Electrical Engineering (major) BS Economics (minor)

GPA: 3.12/4.00

Graduation: June 2023

COURSEWORK

- **3rd year:** Signals and Systems, Semiconductor Devices, Probabilistic Methods In Electrical And Computer Engineering , Geo sciences in the Cinema, Electrical and Computer Engineering Sophomore Seminar , Electromagnetics I , Feedback System Analysis and Design , Basic Drawing , Introductory Sociology , Electronic Devices and Design Laboratory , Junior Participation in EPICS, microeconomics
- **4th year:** Basic Mechanics I (Statics), Advanced C Programming, Systems Simulation and Control Laboratory, Professional Communication Capstone , Digital Signal Processing I, Intermediate Microeconomic Theory, General Chemistry, Python for Data Science, Electronic Circuits and Systems Laboratory, Electrical Engineering Senior Design Projects
- **5th year:** Basic Mechanics I (Statics), Digital Signal Processing I,Macroeconomics, Industrial Organization, General Chemistry, Electronic Circuits and Systems Laboratory, Electrical Engineering Senior Design Projects,International Trade

FENG CHIA UNIVERSITY, Tai Chung, TAIWAN

- Bachelor of electrical and computer engineering

GPA: 3.60/4.00

Graduation: June 2020

COURSEWORK

- **1st year:** Public Speaking, Analytic Geo & Calculation, Innovation Project, Modern Mechanics, General Chemistry, Fundamentals of Electromagnetic , Android App Designing
- **2nd year:** Ordinary Differential Equation , Electronic Circuit Analysis and Design, Circuit Theory, Linear Algebra, Critical Thinking, Electronic Measurement Techniques , Digital System Design, Multivariate Calculus, C Program for Engineering

SKILLS

SOFTWARE AND PROGRAMMING

- Matlab, C, C++ , Android App Designing, Python

HARDWARE ELECTRICAL SKILLSAND PROGRAMMING

- System design, PCB design

Elective Engineering Coursework

- Technical writing , Public speaking skill , Critical thinking ability

Other skills

- Sketch drawing ability, Business writing ability

WORKING EXPERIENCE
Shanghai Ming Huadian Li Technology Co.,Ltd   Junee2023-August2023

- Use python to analyze recorded weather data and irradiance data for Photovoltaic panel power prediction. For these huge amounts of data, I did the data filtering , data selecting and data correlation analysis with power , these are all for make data more efficient for future power prediction. I also got involved with creating the analysis model which use weather to predict solar power

DESIGN PROJECTS
Electrical senior design project   January2023-May2023
Laser Harp
- The aim of the project is to design a laser harp: a musical instrument which emits lasers in place of strings and allows a user to play musical tones by making physical contact with one of the beams. Plucking of the string is achieved by breaking the beam of light emitted by the laser.
- To design the laser harp, a microcontroller, an array of lasers, light sensors, a power source, a speaker/buzzer, and some form of data storage are needed. When the beam of light is broken, the light sensor indicates to the microcontroller to play a tone at a pitch depending on which string was plucked. The laser harp will consist of eight separate strings in order to play a complete Western scale and will visually indicate which note was plucked. The user also has the ability to change the octave/voice of the harp so that bass, mid-range, and treble tones can all be reached easily.
- Mainly be responsible for Circuit Power, Audio, Laser Power/Detection and Distance Sensing , and power and voltage.

Python projects   May2022 -August2022
Bike traffic
- Has five variables: Day, High temp , Low temp , Precipitation and Bridge
- Write pythons codes to analyze data of 2016 New York bikes-using bridges, include: (1) bridge should I install sensor, (2) use the next day's weather forecast\ precipitation) to predict the total number of bicyclists that day (3) use data to predict what day(Monday to Sunday) is today based on the number of bicyclists on the bridges
- The methods I use to solve these problems (1)I calculate the R square for traffic of each bridge to decide which three bridges should I choose to install sensors. (2) I use multiple variable linear regression method to find a linear regression relationship between weather forecast data (low/high temperature and precipitation) and the total number of bicyclists with the help of sklearn model. (3) I use linear regression between bike number and weekday to confirm what day it is by finding the similarity for these plots using sklearn model.

C++ advanced projects   August2021 - Jan2022
Design several projects using c++ language, here I want to list three of my proud projects.
- Huffamn Encoding project : Use binary trees and linked list to make numbers and characters into Huffamn Encoding sequence/mode.
- Expression Trees project: Use compiler and c++ language to build a tree bottom-up, performing a post-order traversal of a tree.
- Depth first search : Use c++ language to build 2d arrays and recursion, and succeed in make depth search in calendar.

EPICS GROUP I   January 2021 – May 2021
ISD- OCC DAILY DETAIL PROGRAM
- Design an app called daily detail for ISD (Indiana school for the Deaf), which is used for teachers in ISD to give feedback about students to parents conveniently.
- Write codes to enhance the app, includes : improve the format and aesthetics of the app , make the PDF and email (the part teachers send to parents) app translate into Spanish, and add log in function
- Design the improved daily detail app successfully and make the test survey for teachers in ISD.

INNOVATION PROJECT GROUP I   September 2018 – Jan 2019
Guard Tour System
- Design a security system for Chang Chun group, which make route more accurate and maintain error only within 30m
- Compare frequency , Energy Usage, Accuracy, Cost and Penetrability of the solutions already existed
- Get the conclusion that we can use USB to make error small as well as use wifi-based system to locate guard based on comparison.

INNOVATION PROJECT GROUP II   February. 2019 - June . 2019
Beautiful "handwriting" machine
- Designed a machine which can print beautiful words which looks like beautiful "words" written by professionals.
- Use C programming to set the steps about how to transfer the original words into beautiful "handwriting" words.
- Assemble a machine to connect the screen (which original words are inputted) to the pen (which print out the beautiful "handwriting" words).

ANDRIOD APP DESIGNING   September 2018 – November 2018
Tik Tok Reminder
- Designed an android app which remind people when should they do what.

INVOLVEMENT

- Senior design project:leader for Power and voltage design ; help in Circuit Power, Audio, Laser Power/distance sensing
- PU-CESC: Chinese Engineering Student Council - member for advertisement apartment (do advertisement for our council, and make conversation with other institutions to find some corporation chances)
- ECE26400 C advancing Group- group member
- Python "Bike Traffic" group - second group leader
- EPICS GROUP - ISD- OCC DAILY DETAIL PROGRAM - group leader in communication department
- Innovation project- guard tour system - group member
- Innovation project- beautiful "handwriting" machine - group member
- Android app designing - tik tok reminder - group leader in techs department

LEADERSHIP EXPERIENCE

Python "Bike Traffic" group - second group leader   May2022 - August2022

- Mainly be responsible for organizing the report of our project, and arrange everyone' task for each period.
- Give suggestions for each member's idea, do technical support for members who have trouble in their task.

EPICS GROUP - ISD- OCC DAILY DETAIL PROGRAM - group leader in communication department   January 2021 – May 2021

- Mainly be responsible for communicating with ISD (the school we design the app for), ask their requirements and whether our design meets their expectation, and share ideas between our group and ISD
- Make the final report about our design to ISD

HELP FRESHMAN ASSOCIATION MEMBER   September 2019– June 2020

- Help freshman and give them suggestions about how to have a better-qualified university life.
- Organize freshmen welcoming party.

ANDRIOD APP DESIGNING - group leader in techs department   September 2018– November 2018

- Act as group leader in techs department, instruct the android app usage to members and arrange everyone' task

Other Honors and Achievement

Purdue University Fall 2020 academic achievement of Dean's List & Semester Honors
Purdue University Spring 2021 academic achievement of Dean's List& Semester Honors
Feng-Chia University Land Freshman Entrance Scholarship in 107 academic year (fall2018-spring2019)
Feng-Chia University 108-2 Scholarship for Excellent students(spring2020)