Yo-Cheng Chuang

Email: **mabolas@gmail.com**

LabVIEW Architect

Taipei, Taiwan

Summary

A Software Engineer/Architecture
Whom Believe New Energy Supply Technology would be the Savior of Homo Sapiens

Working Field:

- *Automatic Control/Measurement System*
- *Software System Optimization*
- *Algorithm Optimization*
- *Embedded System*
- *Software Architecture*

Skills:

- Software Architecture/Pattern
- LabVIEW
- C/C++
- GPU Computing (CUDA, with C++ Platform)
- FPGA Programming (With LabVIEW)

Been Worked in Such Fields:

- *Surface Science*
- *Particle Physics*
- *Analytical Chemistry*
- *Medical Optics*

Languages

Mandarin (Native or bilingual proficiency), **Taiwanese** (Native or bilingual proficiency), **English** (Full professional proficiency), **Yue** (Elementary proficiency), **Spanish** (Elementary proficiency)

Certifications

Certified LabVIEW Architect (CLA)
National Instruments

Experience

Cho Oyu Expedition

AUG 2018 -- OCT 2018

Climber

To Climber one of the Most Accessible 8000 meters Mountain: Cho-Oyu

Apollo Medical Optics Inc.

OCT 2017 -- AUG 2018

Software Architect

- *Software Architecture Design/Implementation*
- *Software Validation and Verification*
- *Software System Performance Optimize*
- *Image Processing Algorithm Optimize*
- *GPU Computing*
- *Hardware Modules Quality Verification Programs*

Earth

MAR 2017 -- SEP 2017

Bicycle Riding At South America

Ride Alone, and Along With Mother Nature

Apollo Medical Optics Inc.

MAY 2016 -- MAR 2017

Software Architect

- *Software Architecture Design/Implementation*
- *Software Validation and Verification*
- *Software System Optimize*
- *Image Processing Algorithm Optimize*
- *Hardware Modules Quality Verification Programs.*

Tricorntech

JUN 2013 -- JAN 2016

LabVIEW Software Engineer

- *Embedded System*
- *FPGA Programming*
- *Application Software for R&D, manufacturer, FAE and customer*
- *Signal Processing Algorithm Optimization*
- *Software Platform Transferring: C to LabVIEW.*
- *Hardware Modules Quality Verification Programs.*

TEXONO Lab

SEP 2011 TO JAN 2013

Research Assistant

- *Real-Time Signal Processing/Discrimination*
- *New Synchronization System*
- *FPGA Programming*
- *Data Acquisition System Maintenance*
- *Data Center Maintenance*
- *Technical Support of Data Acquisition System of CJPL Dark Matter Experiment Lab*

TEXONO Lab

SEP 2008 TO AUG 2011

R&D Alternative Service

- Data Acquisition Software System
- Software Platform Transferring: C to LabVIEW
- Sono-luminescence phenomena study
- Image Acquisition system
- Laboratory Data Center Construction

Education

National Tsing Hua University

2005 -- 2008

Master of Materials Science and Engineering

Master's Thesis: Electro-chemical-induced faceting of noble metal.

- *Surface Science Research*
- *Electro-chemistry and STM(Scanning Tunneling Microscope) Research*
- *Faceting phenomenon research*
- *Mechanism Design*

National Tsing Hua University

2001 -- 2005

Bachelor of Engineering (B.E.)

Material Science and engineering Department

Projects

AMO.Inc

ImageFeature Detection Modification

JAN 2018 TO JUL 2018

- *Real-Time, High Speed and HD Image Stitching*
- *KAZE Feature Detection Re-Write: From CPU to Multi-GPU Platform*
- *Feature Detection Algorithm Modify: Parallel Computing*

AMO.Inc

Image Processing Optimization

NOV 2017 TO DEC 2017

Developed For Next Generation Products with Ultra High Speed Camera.

(Full HD Resolution, thousands frames per second)

- *Real-Time Processing*
- *Algorithm Optimization*
- *GPU Computing (provide for DMA support Frame Grabber)*
- *CPU Computing Optimize (provide for none-DMA support Frame Grabber)*

AMO.Inc

Software Verification/Validation

JAN 2017 TO MAR 2017

Software Documentation preparation for Product Certification to FDA/tFDA

- *Modules Test*
- *System Test*
- *Software Verification*
- *Software Validation*

AMO.Inc

Software System Optimization

MAY2016TOSEP2016

Achieve the Quality and Performance as a Medical Product Software

- *System Architecture Re-Design/Implementation*
- *Software Modules Re-Design and performance optimize*
- *Image Processing Algorithm performance improvement*
- *UI Re-Design*

TricornTech

N2 Charger

MAY 2014 TO SEP 2014

Customized product for TSMC.
Provided the exhaust analyse to keep their process in best condition.

Automatically working between two modes, and provide necessary potential to be integrated into another lager system for big data analyse.

TricornTech

IAQ Dual Mode

MAR 2014 TO JUN 2014

Controlling software evolution provide to Indoor Air Quality (IAQ) Product Series, which offers two switchable operation modes. One is slow but precisely, the other works fast but only given roughly data.

TricornTech

Manifold System

NOV 2014 TO MAR 2015

Developed for large-scale industries. Integrated and combined various series products to provide customized services. With Multi-Channels &Multi-Products solution, customers are able to deploy this system for large area monitoring in central control system.

TricornTech

Third-Generation Software System

OCT 2014 TO SEP 2015

Kept the performance of second-generation software/embedded control system, this generation focused on:

- *Flexibility: All operation process and linking algorithm are modularized, combinations are unlimited.*
- *Diversity: Fulfill different oriented users operation requirement. (RD,manufactures,FAE,End Users....etc)*
- *Integration, maintenance, and extendibility.*

TricornTech

Second-Generation Software System

SEP 2013 TO SEP 2014

First generation software is outsourced. Consumed huge CPU resource, made it unstable and crashed very often. Also lack of system self-monitoring which hardware R&D desperately needed for hardware improvement.

This new software/embedded control system improve the performance and new features fulfil the requirements

Academia Sinica

Real-Time Signal Discriminating System

SEP 2011 TO JAN 2013

Real-Time Discriminate input data, decreased the amount of garbage data

- *Within FPGA, algorithm programmable, more flexible, easy to modified and optimize*
- *Decreased physical cables and electronic devices, increased the reliability*

Academia Sinica

Lab Data Center Construction

APR 2010 TO NOV 2010

Built a Server Cluster which with hundreds hard drives to fulfill the tremendous data storage, coming with the upgraded of data acquisition system.

Academia Sinica

Data Acquisition System Upgrading

FEB 2009 TO SEP 2010

Upgraded both Hardware and Software Platform of Data Acquisition System.

With the upgrading, system performance got 60% improved.