CHU-YI WANG

Email: chuyiwan@usc.edu
Phone: +1(626)372-2966
Address: 2677 Ellendale Place Apt 216, LA, CA
www.linkedin.com/in/chu-yi-wang-70748857

Interest

Associate Product Manager Intern • Mechanical Engineering Intern, Summer 2017 (at Google)

Education

University of Southern California (USC), Los Angeles, CA, USA — Dec. 2017 (Expected)
Ph.D. Candidate in Mechanical Engineering

National Taiwan University (NTU), Taipei, Taiwan
M.S. in Applied Mechanics (GPA: 3.79/4.00; Thesis won the HiWin Thesis Award.) — Jun. 2009
B.S. in Bio-Industrial Mechatronics Engineering (GPA: 3.82/4.00, rank: 3/43) — Jun. 2007

Selected Projects — **Some projects were executed simultaneously. I am a good problem solver and project organizer.** — **Publication or Report**

Product design

1. **Managing design coupling to reduce complexity during concept improvements**. — Paper1: goo.gl/ga5wBH
   • Analyzed the concept properties then developed a strategy to improve designs — Proposal: goo.gl/wjq5WT
   • Skills: cross functional reviews, strategies for complexity reduction, Axiomatic Design. — Paper 2: goo.gl/OsHolh
2. **Regenerative Speed Reducer** (*AME410*, #1 in class). — Report: goo.gl/elajB1
   • Developed an innovative bumper that can collect the vehicle's energy and reduce speed. — Videos: goo.gl/IqsEFw
   • Skills: QFD, EMS model, design evaluation, SolidWorks.
3. **Product Development for Bike Theft Prevention** (*AME503,* team leader). — Report: goo.gl/3A6bXt
   • Analyzed user needs to define a product vision and strategy, and then built a prototype.
   • Skill: design target identification, decision-making, smart question strategy.

Optical + BME

4. **Tooth birefringence measurement methods** (*Nano-BioMEMS Lab*, team leader). — Paper 4: goo.gl/0hxl0q
   • Designed an optical detector to examine the tooth for Osteoporosis prevention.
   • This research won the 1st place in NTU Engineering Technology Contest.
5. Study of sub-wavelength annular aperture and optical drill (*Nano-BioMEMS Lab*, M.S. Thesis). — Paper 5: goo.gl/2jT2TD — Thesis: goo.gl/MxbuOc
   • Fabricated and designed optical heads to generate high aspect ratio beams to drill silicon
   • Skills: fabrication process, optical design, LightTools, MATLAB, XRD.

ME + EE

6. **Bi-pedal robot project** (*Principles & Applications of Microprocessor*, #1 in class). — youtu.be/6O_XsUJKrTo
   • Designed a simple robot with a controller, which can wave hands, move forward/back.
   • Skills: microprocessor, mechanical design.

CS

7. **Bike Sale System** (*AME505,* team leader and the major programmer). — Report: goo.gl/JZkd46
   • Designed a bike sale system that enables users design bikes and track shipping status.
   • Skills: JAVA, object-oriented modeling.
8. **Romanian Traveling Agents and Robot Simulators** (*CSCI561,* individual mini project) — Report: goo.gl/0hxl0q
   • Wrote codes to examine agents with different algorithms, and determined travel path.
   • Skills: python, artificial intelligence (AI).
9. **Muscle movement tracking** (*BBLab*, I took over this project from a leaving RA.) — Manual: goo.gl/x86TcJ
   • Modified the previous code to enhance the tracking ability of the muscle movement.
   • Skills: image processing by Visual Studio with OpenCV.

TA Experiences

Duties: a bridge b/w professor and students (understand/solve students' difficulties/problems.)

1. **AME 588 Material Selection**, USC: focused on structural applications but also considering physical properties, cost, and environmental considerations. — Fall, 2016
2. **AME 503 Advanced Mechanical Design**, USC: provided the rational thinking methods for identifying design opportunities from market and solving design problems optimally. — Fall 2014, Summer & Fall 2015, Summer 2016
3. **AME 527 Elements of Vehicle and Energy Systems Design**, USC: focused on multidisciplinary design optimization and quantitative tools for design process. — Spring, 2016
4. **AME 505 Engineering Information Modeling**, USC: covered symbolic logic, AI techniques, object-oriented technologies, and design theory and methodologies. — Spring, 2015
5. **AME 525 Engineering Analysis**, USC: linear algebra, vector analysis, complex variable. — Fall, 2015
6. **AME 105 Introduction to Aerospace Engineering and Graphics**, USC: I was responsible for being a lecturer in a session to teach 3D graphics (CAD tool: SolidWorks) — Fall, 2014

Selected Awards

1. **34th CIE Conference Poster Award in CAPPD**, ASME CIE Division — 2014
   • Seven students were selected to won the award in the poster session with travel grant.
2. ***USC-Taiwan Fellowship***, USC Viterbi School & Taiwan Ministry of Education — 2012
   • A four-year fellowship plus assistantship to outstanding USC Taiwanese PhD students.
3. ***Excellence Award** in **6th HiWin Master's Thesis Award,*** HiWin Company — 2010
   • One of the best Master's thesis awards in Mechanical Engineering in Taiwan.
4. ***2005 & 2006 Presidential Award*** (top 5% in class), NTU. — 2005 and 2006
5. ***1st place** in **14th National Taiwan University Engineering Technology Contest***, NTU — 2005
   • An annually university-wide contest. Our topic: the tooth birefringence measurement.
6. ***1st Macronix Science Award*** (4 year fellowship award for university years), MXIC. — 2002
   • For high school talent who creates an innovative invention. Mine is a novel chalk eraser.

ME Equipment

CNC lathe, milling, drill, dicing saw, e-gun evaporator, x-ray diffractometer.