Hsu Shih-Yao

Perseverance

Philadelphia, PA - Email me on Indeed: indeed.com/r/Hsu-Shih-Yao/1c4bab714d4659ef

Dedicated and passionate Penn mechanical engineering graduate concentrating in robotics with strong backgrounds in mechanical design-CAD, automation and controls seeking to apply my professional skills to your esteem company.
Willing to relocate: Anywhere
Authorized to work in the US for any employer

WORK EXPERIENCE

Mechanical Engineer (Summer Intern)

Corning Incorporated (Asia Region) - Taiwan - July 2015 to August 2015

1.Constructed a brand-new concept of the glass conveyor capable of lowering cycle time by 40% and increasing production by 20%

2.Designed the basic outline of the new conveyor and its complete configuration including features, use of materials, use of machine components, mechanical mechanisms, using Solidworks with detailed costs and benefits analysis.

3.Obtained compressive results of force and fatigue analysis by conducting Finite Element Analysis for the new design of conveyor

Research Assistant

University of Wisconsin - Madison, WI - May 2012 to August 2012

1. Controlled the size of spherical polymer micropellets via control of surface tension imposed on the pellets and hot air
stream produced by the micro-pelletizer.

2. Responsible for controlling polymer micrpellets by means of Rayleigh disturbances
Imposed on a polymer melt for volume production.

3.Planned and evaluated results of analysis, modeling and experiments.

AutoCAD Drafter

University of Wisconsin - Madison, WI - February 2012 to May 2012

1. Designed a new gear box with 30% increase in reliability and life time as well as 20% increase in efficiency using AutoCAD

2. Obtained thorough force and fatigue analysis by conducting FEA analysis including stress concentration and safety factor

3. Supported engineering designs through analysis and simulation.

EDUCATION

M.S.E in Mechanical Engineering and Applied Mechanics
University of Pennsylvania - United, PA
2014 to Present

B.S.E in Mechanical Engineering
Feng Chia University
2009 to 2013

Exchange Program in Mechanical Engineering
University of Wisconsin - Madison, WI
2012 to 2012

SKILLS

Java (2 years), C++ (1 year), Python (2 years), Autocad (10+ years), Solidworks (10+ years), Matlab (6 years), Pro-engineering (2 years), FLUENT (1 year), EES (2 years)

LINKS

https://www.linkedin.com/in/shih-yao-hsu-903629a2?trk=hp-identity-photo

MILITARY SERVICE

Service Country: TW
Branch: Revolutionary Martyrs' Shrine
Rank: Private First Class
June 2013 to June 2014

AWARDS

Feng Chia University Academic Award
January 2011

Feng Chia University Academic Award
September 2011

Feng Chia University Academic Award
September 2012

Feng Chia University Academic Award
January 2013

Graduation Award (1st in the Department of Mechanical Engineering)
June 2013

Tug of War Second Price
September 2011

CERTIFICATIONS

Pro-Engineering Intermediate level Certificate

GROUPS

University of Pennsylvania Taiwanese Student Assoication

ADDITIONAL INFORMATION

TECHNICAL EXPERIENCE

1. Quadrotors Flying (2016), software implementation of a real quadrotor, University of Pennsylvania Robotics
•Implementation of PID controller, A+ and Dijkstra search algorisms and trajectory planning in a virtual and real world.
•Estimated position and velocity of the quadrotor using imaging processes and implementations of Kalman Filter
•Multi-robot trajectory planning using CAPT algorisms in an environment with obstacles.

2. Robockey (2015), fully autonomous robots playing hockey, University of Pennsylvania, Second Price
•Programmed robots with sophisticated functions of localization, wireless communication, find puck and score
•Designed the full configuration of the robots with considerations of robot's weight, friction and heat dissipation
•Troubleshot the issues of shaft eccentricity for wheels and of tilting of the robots due to the significant weight

3. AcroBot (2015), Dual-axis Self-balancing Robot, University of Pennsylvania
•Programmed the robot with PID control based on the calculations of processed data from IMU and tuned control parameters
•Brainstormed and designed the configuration and detailed specifications of the robot and 3-D printed it out with Makerbot.

4. CuGo (2015), Design Fair at Wharton School of Business at University of Pennsylvania
•3-D printed toiletry organizer with both aesthetics and functionality designed to organize toiletries for travelers.
•Designed and 3-D printed the product by myself using Makerbot.