THERMAL ENGINEERING INTERN

Summary

- Graduating Ph.D. candidate with a research focus on developing large-scale computational models using statistics and machine learning approach. Interested in a career as a computational scientist or quantitative software developer.

Accomplishments

- FEM Analysis of 1-D Aluminum Bar with Sinusoidal Body Force Conducted meshing and force analysis on MATLAB.
- Correlated the results with ABAQUS.
- FEM Heat Transfer Analysis of 2-D Plate with Hole with Thermal Load and Boundary Conditions Conducted meshing and force analysis on MATLAB.
- Correlated the results with ABAQUS Finite Element Analysis of 2D beam with Central Hole Conducted meshing and force analysis on MATLAB.
- Correlated the results with ABAQUS On the Anthropomorphic Control of Redundant Robot Arms Focused on the design and control of robotic devices that will help and collaborate with humans in every-day life.
- Defined anthropomorphism in robot motion and controlling a robot in an anthropomorphic way.
- Design and Development of a Two-Wheeled Autonomous Parallel Parking Robot Designed a two-wheeled robot that is coded to run autonomously with the ability to parallel park using Solidworks.
- The IR sensor and MCU were used to simulate the "eyes" and the "brain" of the driver.
- Tested in a simple built course to simulate a scenario in which there is an open space for the robot to park inside.
- Reusable Delta II Launch Vehicle Conducted design feasibility and alternatives analysis of a completely reusable Delta-II rocket.
- Analyzed a variety of different re-entry technologies and engines to accomplish this task.
- The business sense of the final designs was analyzed along with the near-term feasibility.
- Senior Design Project: High Speed Human Powered Vehicle Designed a high performance human powered vehicle using Solidworks.
- Provided the framework technology to help increase the effectiveness of the common bicycle to the point of being more competitive with other forms of ground transportation.
- Metalworking Practice Learned the operation of various types of manufacturing machines, including computer numerical control CNC) lathe, milling machine, drilling machine, grinding machine.
- Programmed the CNC machine using G code to machine and fabricate some mechanical parts.
- Experienced welding, casting, forging, heat treatment, and automotive engine disassembly Electrical Engineering Practice Learned soldering electronic components on circuit boards.
- Made a radio and a speaker PUBLICATIONS 1.
- Wang, Y., Artemiadis, P., "Closed-Form Inverse Kinematic Solution for Anthropomorphic Motion in Redundant Robot Arms," 2013 Advances in Robotics & Automation.
- 2.
- Wang, Y.,Mignolet, M., "Reduced Order Modeling for the Dynamic Response Prediction and Design of a Part of a Complex Structure," IMAC-XXXIV Conference & Exposition on Structural Dynamics.

Experience

01/2013 to Current Company Name City , State

- Research and development of linear and nonlinear models for hypersonic vehicles that takes into account full.
- aero/structural/thermal couplings, and predicts fatigue life/damage & health monitoring for specific mission.
- profiles.

Thermal Engineering Intern 07/2011 to 08/2011 Company Name City

- Hands-on training at large-scale industrial plants.
- Learned about designing and manufacturing of large power generating equipment, including axial compressor, energy recovery turbo-expander, centrifugal compressor, centrifugal blower, large fan, steam turbine, etc.
- Studied management mode of enterprise, production and marketing process.
- AFRL-University Collaborative Center in Structure Sciences Cooperated with the Air Force Center focusing on the development of affordable and reusable hypersonic vehicles.
- Varied research tasks throughout including: developing methodologies to efficiently predict dy- namic response of a "representative" panel with nonlinear geometric deformations; modifying structural and thermal models to reflect: (i) the multidisciplinary interactions (ii) the evolution of material properties (iii) the occurrence and evolution of material nonlinearity.

Researcher 01/2011 to 01/2013 City , State

- Worked alongside ASU faculty in the research and design of assistive robotic devices which needed efficient.
- control strategies.
- Varied research tasks throughout including: fabricating an infrared position sensor suit,.
- machining mounting plates for a position sensor camera, and MATLAB utilization for data and signal.
- processing.

Teacher's Assistant Company Name City , State

- Assisted instructor in running experimentation laboratory for Internal Combustion Engine (ICE) course.
- Oversaw over 90 students and compiled each lab document along with lesson planning and teaching.
- Hands.
- on experience with assembling, disassembling and testing ICEs.

Education

Doctor of Philosophy : Mechanical Engineering Dec 2016 Arizona State University City , State GPA: GPA: 3.9/4.0 Mechanical Engineering GPA: 3.9/4.0

Master of Science : Mechanical Engineering December 2013 Arizona State University City , State GPA: GPA: 4.0/4.0 Mechanical Engineering GPA: 4.0/4.0

Skills

Air Force, ANSYS, approach, C, CAD, decision-making, designing, experimentation, Experiments, features, FORTRAN, instructor, lesson planning, machining, marketing, Materials, MATLAB, Mechanical Design, Microsoft Office, Modeling, NASTRAN, enterprise, OS, optimization, PATRAN, camera, physics, predict, Process Control, Research, research and design, robotic, Solidworks, Statistical Process Control, teaching