JOHN FUZELL

Miami, FL | t: 515.555.1290 | e: jf@jf.com

PROFESSIONAL SUMMARY

Over 4 years experience in architecture as well as interdisciplinary experience in robotics, aerospace, computer, electrical, and electronics engineering.

Best known for designing, testing, integration and human factors engineering and development of materials.

PROJECT HISTORY

Clockwork Mechanism of Estonia Blanca Light Station 2009

[Cambria, CA] – The goal of the Bureau of Land Management restores coastal projects along the Californian coast including a particular light station named Estonia Blanca. The clockwork mechanism had been removed from the light station and displayed in Cambria for historical educational purposes.

- Educated visitors by creating animation videos demonstrating the detailed operation clockwork mechanism as to better illustrate how components were integrated together (which in one instance require the assembly of 208 individual lens parts) when the light station was operational using SolidWorks software.
- Provided documentation on all of the parts of the mechanism such that a physical, miniature model could be constructed and also to facilitate the construction of a replacement part in the case of failure
- Analyzed and measured all gears, sprockets, base, housing structure, lens components and mountings 5 separate times using measuring tape, calipers, protractors, trigonometry, and design/drafting skills to reverse-engineer the components with great accuracy, all within 4 months
- Created a supplementary interactive PowerPoint presentation as an educational resource in order to better present the animation video and encapsulate all the information used in the project which was prominently displayed at the exhibition.

Team Tech Competition 2006 – 2009

The Society of Black Engineers holds an annual competition called Team Tech in which students partner up with local industries and companies to sponsor the design, construction and testing of a product.

[Cambria, CA] – External Pod Casing, Lockheed Martin – 2009 (in progress)

- Created an external pod casing, mounting strut and computer to read sensor responses and measure the moment on aircraft wings for the facilitation of new wing designs that would minimize drag and air resistance.
- Completed on schedule and approved by Lockheed Martin (but still awaiting national conference competition scheduled for November 2009)

[Pomona, CA] – Stryker Endoscopy, Cutters & Burrs - 2008

- Designed a motorized, mechanical shaving tool with significantly reduced clogging and increase efficiency for arthroscopic surgery by building a team of inter-disciplinary students (i.e. mechanical, aerospace, electrical, civil, environment and bio-engineering), testing prototypes on goat/cow knees to identify weaknesses, creating initial designs sketches, refining blade designs in SolidWorks resulting in significantly shorter surgery times and reduced chances of patient complications.
- Won 2nd place at the national conference

[Anaheim, CA] – Weld-Point Inspection Device Project, Walt Disney Imagineering - 2007

- Used engineering statics and dynamics to determine the dynamics, rigidity, loads on specific points and problem areas (such as stress risers) that could eventually surface in order to prove the concept of the device's design and to prove that the device would in fact work within the constraints and conditions that would be subjected resulting in a detailed analysis report demonstrating the structure from various angles, applied forces and moments under normal stress, axial stress and torsion shear.

- Was awarded 1st place at the national conference

[San Luis Obispo, CA] – Blade Inspection Camera, Northrop Grumman - 2006

- Constructed a flexible tool for Northrop Grumman that was able to navigate around the complex geometrical constructions surrounding turbine 3 foot diameter blades of engines in order to inspect blades for nicks, particles and damages using a camera, serve motors, robotics, an 8-input Nintendo controller and the design input of multiple engineering faculties (including aerospace, civil, mechanical, electrical and materials)
- Was awarded 2nd place at the national conference

American Society of Mechnical Engineers Competition 2006

[Pomona, CA] – Human Powered Vehicle (HPV) team

- Created an outer casing for a recumbent bicycle using carbon fiber, Bondo (crack filler) and multiple sanding iterations on molds to create an extremely smooth, notch-free final product
- Was awarded 1st place for design, 3rd place in the Black's speed trials.

Lab Assistant 2004 – 2005

[Santa Rosa, CA] – Santa Rosa Junior College, College for Kids program

- Fostered a curiosity in engineering, physics and robotics by helping students to build and program their own LEGO robots using LEGO Mindstorm kits to accomplish various tasks (including popping balloons with pins, detecting light changes in surrounding) by providing individual assistance to each student and creating obstacle courses.

Mary Tudor High School Robotics Competition 2001 – 2002

[Austin, Texas] – Robotic Ball Catcher, Agilent Technologies

- Created a lightweight, efficient robotic arm that could grab 12" individual balls rolling on the ground and place them in a goal directly behind the robot by determining arm length, width of the ball catcher, construction materials, assembly of arm components and integration of the arm into the rest of the robot's functions (including driving, moving)
- Was awarded 1st place in design, 2nd place overall

SKILLS PROFILE

- Office Tools: Microsoft Office (FrontPage, Word, Excel, PowerPoint, Access, Publisher)
- Technology: SolidWorks
- Other Skills: Trigonometry,

EDUCATION

Bachelor's Degree of Science in Mechanical Engineering, Major in Mechtronics 2009

California Polytechnic State University (San Luis Obispo, CA)

REFERENCES

Pieras Blancas Light Station
James Boucher-Hoya, Principal
e: jim@boucher.com

Team Tech
California Polytechnic State University
e: iwhd@cpsu.org