Wilson Lam

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EDUCATION

University of California, Los Angeles
- **Master Degree in Mechanical Engineer**, GPA: 3.38   [2013 – 2014]
- **Bachelor of Science in Mechanical Engineer**, GPA: 3.25   [2009 – 2013]

- Combustion Engine Design
- Connecting Rod Design (+FEA)
- Heat Transfer and Thermodynamics
- Finite Element Analysis (Theory & Coding)
- Mechanical Design/Material Strength
- Formula SAE vehicle design
- Gear, Linkage, Motion, and Robotic Designs
- Fluid Dynamics
- MicroElectroMechanical System (MEMS) Designs
- Smart Grid Research
- Electric Vehicle Design and Implementation
- Rapid-Prototyping and Manufacturing
- Assembly Management of Molding & Casting
- Dynamic System Control (feedback & control)
- Composite Structure Design
- Vibration, Stress, Strain, Fatigue & Failure Analysis
- Optical & Magnetic lens with light and laser sources
- Plating, Coating, & Heat Treating

SKILLS

Languages
- Proficient in: Matlab (Interface, cmd prompt, FEA coding, etc.), Javascript, HTML, CSS, LabVIEW (User Interface, Statediagram)
- Familiar with: Visual C++, (basic) Java, (basic) Python, Mathematica

Software
- Platforms: -Windows: XP, 7, Vista, 8; -Linux: Ubuntu, Puppy; -Mac; -Android
- CAD Software: Knowledgeable in static, frequency, optimization, thermal, and motion FEA: (Link1)(Link2)
    - Abaqus
    - AutoCAD
    - Comsol
    - Solidworks
    - Inventor
    - Pro Engineer
    - Nastran
- Microsoft Word, Excel, PowerPoint, Visio, jQuery, and Creative Suite (Dreamweaver, Photoshop, etc.)

Technical Skills
- Manufacturing: Mills, lathe, CNC (basic), water-jet abrasive cutter, electrical discharge machining (EDM), Solid Freeform Fabrication (SFF type: 3D-Printing, FDM, SLA, LENS), Bed-Mills, Table-Mills, Vernier Scale.
- Electronics: Sensors testing and installation, PID control of sensors and actuators, wire soldering, software-hardware integration, integrated circuit designs, and feedback control.
- American Society of Engineers and Architects (secretary managing group activities and meetings)

WORK EXPERIENCES (PORTFOLIO)

Ledconn (Product Specialist)   [Jun. 2014 – Present]
- Primary responsibilities include manage floor process & development of LED light panel from raw materials.
- Operate and train new employee in CNC operation, metal cutting, and company SOP.
- Develop SOP, work on CAD drawing, and perform quality control on floor flow process and products.

ENGINEERING PROJECTS (PORTFOLIO)

pocketRULER (Rapid-Prototyping with FDM)   [Mar. 2014 – Jun. 2014]
- Primary responsibilities include design, develop, present product, and organize group presentations.
- Manage team schedule and gather data, design, and manufacture working prototype.
- Present product, redesign, and remanufacture until product is optimized though rigorous iterations.

Connecting Rod (Model and Test Toyota 1NR-FE connecting rod)   [Sept. 2013 – Dec. 2013]
- Plan and Design a connecting rod similar to the Toyota 1NR-FE 4-cylinder engine connecting rod model.
- FEA, fatigue, and crack propagation tests are perform on the connecting rod using Abaqus, Comsol, Matlab, and Solidworks.
- Optimize structural design, material consumption, and cost reduction while maintaining optimal structural strength.

Project Panthra (Autonomous Delivery Vehicle)   [Dec. 2012 – Jun. 2013]
- Oversee team project & design, purchase, manufacture, test, and assemble an autonomous vehicle to transverse a track carrying 18 lbs. to unloading area. Model in Solidworks then machine or build parts.
- Solder and wire key electronic components between motors, sensors, and control board.
- Generate parts lists, assembly drawings, and tolerance information, design and integrate electrical and mechanical components.
- Test multiple sensors with PID for dynamic feedback control of wall distance in real time.
- LabView is use to read, process, and execute commands to autonomously control the robot.

Linear Actuating Table Design   [Sept. 2012 – Dec. 2012]
- Optimization of 6 bar linkage in Matlab, coupler curve, velocity, acceleration, torque, and power analysis of motor. Finalize design in Autodesk and perform second motion analysis.

Project Magneton (Solid Freeform Fabrication (SFF) and Manufacturing)   [Sept. 2011 – Dec. 2011]
- Design Solidworks model of Magneton then use SFF, waterjet cutter, EDM, and mill to create the rapid-prototype model. CNC is use in the production of some parts.
- Create the process from ideation to prototyping to production, organize report along with team, and project presentation.

INTERESTS/ACTIVITIES

- Robotics
- UCLA FSAE (Link 1)(Link 2)
- MESA (Link)
- ASEA
- Skill USA (Link)
- Science Olympiad