Wilson Lam

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EDUCATION

University of California, Los Angeles

- **Master Degree in Mechanical Engineer**, GPA: 3.23 [Expected June 2014]
- **Bachelor of Science in Mechanical Engineer**, GPA: 3.25 [2009 – 2013]

- Combustion Engine Design
- 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 & Implementation
- Rapid-Prototyping and Manufacturing
- Assembly Management of Molding & Casting
- Dynamic System Control (feedback & control)
- Composite Structure Design
- Vibration, Stress, Strain, and Failure Analysis
- Optical & Magnetic lens with light and laser sources

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
- 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)

ENGINEERING PROJECTS (PORTFOLIO)

pocketRULER (Rapid-Prototyping with FDM) [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) [2014]

- 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) [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.

Project Magneton (Solid Freeform Fabrication (SFF) and Manufacturing) [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