Clayton Salinger Ketner

Mechanical Engineering & Computer Science

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INTRODUCTION

Eager Mechanical Engineer and software developer with strong practical experience, close attention to detail, and an interest in robotics, design, and fabrication. Highly organized, friendly, and able to quickly learn and adapt to changing environments and technologies.

WORK

June 2014 – Present (2 years)

Counsyl – *Automation Service Engineer*

- Primary mechanical design engineer - designed new automation hardware
  - Mechanical parts and assemblies in SolidWorks - DFM, DFA
  - Developed new BOM management and part numbering system
- Wrote and maintained software - full stack
  - Python and Django
  - Linux and Windows VM management via Puppet
- Performed error recovery and troubleshooting on high-uptime production robotics systems
- Investigated production hardware and software issues to identify root cause, provide fixes

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Summer 2013 (4 months)

San Bruno Pet Hospital – *System Administrator*

- Independently maintained and installed computer systems.
- Communicated with employees and external tech support to report and resolve technical issues.
- **Received praise for improving reliability of hardware and software.**

Summer 2011 (3 months)

OSIsoft – *Virtual Campus Intern*

- Independently researched & integrated OSIsoft PI System with SAS analytics software.
- Concluded findings in a White Paper posted to OSIsoft's vCampus website.
- **Received praise from an outside company for quality of the White Paper.**

PROJECTS

Fall 2013 (4 months)

Design of a Mechanical Governor – *AME 408 Final Project at USC*
Managed team to design a rotating governor part, given deformation and natural frequency requirements using SolidWorks.

Fall 2013 (4 months)

Intro to Robotics – *CSCI 445 at USC*
Learned localization (particle & Kalman filters), mapping (SLAM & FastSLAM), decision processes (MDP & POMDP), and sensor calibration and use.

Fall 2012 (4 months)

Remote Inspection Vehicle – *Senior Project at USC*
Remote control robot for the 2013 ASME design competition. Designed and built the controller. Programmed and wired the controller and robot.

Summer 2012 (2 months)

Robotic Arm – *personal, for-fun project*
Designed, manufactured, wired, and programmed independently.

SKILLS

My Favorite Tools

Mechanical – SolidWorks
Programming – Python, Django, VIM, tmux
Software Prototyping – Arduino, Teensy, Raspberry Pi
Hardware Prototyping – my Makergear M2 3D printer, mill, lathe, etc.

Mechanical Engineering

CAD – SolidWorks, Pro-E, Solid Edge, PDM
Design – design for assembly and manufacture (DFA, DFM), mechanical simulation (FEA),
Disciplines – control systems, MATLAB & Simulink, LabVIEW, Mathematica, technical report writing

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Programming

Languages – Python (+Django), Puppet, Java, C++, LaTeX, HTML, Javascript
Methodologies, etc. – TDD, version control (git), moving fast and not breaking things

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Hands-on

Machining and wrenching (machine shop tools), construction and assembly, 3D printing

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Other

Mechatronics, PLC (realtime) programming

AFFILIATIONS & AWARDS

2011 – 2014 **Sigma Phi Delta** – *Professional Engineering Fraternity*
– (Fall 2013) House Manager & Executive Board Member

Spring 2014 **USC Aerial Robotics Team** – *Mechanical team*

Fall 2013 **Dean's List** – *USC*

Spring 2010 **Dean's List** – *UMass*

March 2012 **Certified SolidWorks Associate** – *Score: 100%*