Clayton Salinger Ketner

Mechanical Engineering & Software Development

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INTRODUCTION

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 eager to learn new technologies.

TIMELINE

June 2014 – Present

Counsyl – *Automation Specialist* ⇒ *Automation Service Engineer* ⇒ ***Automation Engineer***

- Primary mechanical design engineer - designed new automation hardware
  - Designed mechanical parts and assemblies in SolidWorks - DFM, DFA, part selection
  - Performed prototyping and testing to validate and de-risk
  - Created multiple novel designs - one patent application
- Software development - full stack
  - Front and back-end development with Python and Django; platform with Puppet
- Developed PLC (programmable logic controller) software and HMI design
- Performed troubleshooting on hardware/software issues to identify root cause, provide fixes

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2009 – 2014

Graduated from University of Southern California (USC) – *(extra year due to transfer)*

- **B.S.**: Mechanical Engineering
  - CAD (adv. modeling and FEA), adv. strength of materials, linear control systems, heat transfer
- **Minor**: Computer Science
  - Robotics algorithms, artificial intelligence

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 the reliability of the hospital's hardware and software

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Summer 2012 (2 months)

Robotic Arm – *personal, for-fun project*

- Stepper motor controlled 2-axis arm with my own inverse kinematics
- Designed, manufactured, wired, and programmed independently

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Summer 2011 (3 months)

OSIsoft – *Virtual Campus Intern*

- Independently integrated OSIsoft's data collection software with an external analytics software
- Concluded findings in a White Paper posted to OSIsoft's vCampus website
- Received praise from an outside company (OPX Biotechnologies, Inc.) for the White Paper

SKILLS

My Favorite Tools

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

Mechanical Engineering

CAD – SolidWorks, Pro-E, Solid Edge, PDM, stress/strain and vibration FEA
Design – GD&T, design for assembly and manufacture (DFA, DFM)
Etc. – control systems, MATLAB & Simulink, LabVIEW, Mathematica, technical report writing

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Software Development

Languages – Python (+Django), Puppet, bash/sh, Java, C++, LaTeX, HTML, Javascript
Etc. – git, Linux, TDD, moving fast and not breaking things, PLC programming, HMI design

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Hands-on

Machining – mill, lathe, CNC, CAM, 3D printing, welding
Etc. – soldering, electrical prototyping

AFFILIATIONS & AWARDS

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%*