

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

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

June 2014
– Present

- Primary mechanical design engineer - designed new automation hardware
 - Designed mechanical parts and assemblies in SolidWorks - DFM, DFA, part selection (COTS)
 - Performed requirements gathering, prototyping, and testing to validate and de-risk
 - Developed part and revision tracking and documentation system
 - Invented 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

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

2009 – 2014

- **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

San Bruno Pet Hospital – System Administrator

Summer 2013
(4 months)

- 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

Robotic Arm – personal, for-fun project

Summer 2012
(2 months)

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

OSIsoft – Virtual Campus Intern

Summer 2011
(3 months)

- 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

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

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%