**Career Summary**

*Data scientist and engineer, looking for a role focused on data science. Known for fast learning, self-motivated research, and unrelenting quality.*

I have recently completed my Masters in Data Science from UC Berkeley and hope to move fully into a Data Science role after 5 years working as a mechanical engineer. During the UC Berkeley program, I gained practical skills in data manipulation, machine learning, statistical methods, and data visualization. I am excited to continue to creatively solve real-world problems using those new skills.

Building my career in the medical industry instilled solid habits of clear communication and defendable, data-driven decisions. I am known by those I have worked with for diligent documentation, clear rationale, and reliable follow-through. My analyses and reports have withstood FDA scrutiny, and I have defended my work both internally and to the agency. I am excited to apply such signature care and creativity to new and interesting problems.

**Technical Skills**

Working with structured and unstructured data

Performing statistical analyses (confidence intervals, sample sizing, descriptive statistics, etc)

Developing models for prediction, categorization, language processing, and image analysis using AI/ML

Presenting findings to enable data-based decisions

**Data Science Software and Tools**

Python programming including

- Jupyter notebooks

- Machine learning (sklearn)

- Natural language processing (nltk, TensorFlow)

- Visualization (matplotlib)

R (statistical computing language)

Matlab (including image processing and UI)

SQL

Version control (git via command line & github)

Data visualization (html, D3.js, Tableau)

**Medical Device Regulation & Standards**

ISO 13485 and 21 CFR 820 understanding and experience

Fluency in IEC 60601-1 and associated standards

Familiarity with IEC 14971, MIL-STD 810, RTCA DO-160, ISO 10993

**Education**

**California Institute of Technology B.S. in Mechanical Engineering, 2012**

Coursework included engineering design, kinematics and robotics, control theory, learning systems, and programming methods

**UC Berkeley: School of Information Master of Information and Data Science (MIDS), 2019**

Coursework included data engineering, statistical methods, experiments and causality, machine learning, natural language processing, data visualization, and data ethics

**Project Highlights:** *(Demos at* [*KrissyG-hub.github.io*](https://krissyg-hub.github.io/)*)*

* Political Language Processing: A project to predict congresspersons’ votes regarding the ACA, using their published healthcare statements and NLP models
* Board Game Design: Machine learning analysis of board game patterns using python and sklearn
* Ford GoBike Analysis: SQL exploration of GoBike data resulting in business recommendations
* NBA Player EDA: Tableau visualizations of NBA player statistics, read against existing assumptions
* Propaganda Experiment: Study designed to evaluate propaganda’s effects on politics, analyzed in R
* Insurance Ethics: Discussion of the ethical implications of including personal data (ex. wearables data) in insurance calculations

**Professional Experience**

**Product Creation Studio (2/2018-6/2018)**

Quality Engineer *Seattle, WA*

* Responsible for all quality engineering project tasks and deliverables at PCS, including requirements development, risk analysis, and verification planning, execution, and reporting

**Philips Healthcare, AED Business (4/2015-12/2017)**

Verification Lead, V&V Engineering *Bothell, WA*

* Authored hardware verification test plans, sampling plans, protocols, tool packages, and test reports (including compliance testing and certifications)
* Performed statistical analysis on test data to determine test sample sizes and prove product reliability
* Interpreted medical device standards for their application to AED devices and accessories
* Participated in design reviews for input specifications, specifically for testability and consistency
* Developed test tools in C#, including a timing tool for interval testing and an equipment tracking program
* Provided mentorship and guidance to the team as a senior engineer; serves as a process expert to ensure that V&V work aligns with the Philips Quality System and applicable standards & regulations
* CAPA owner – performed root cause analysis; created action plan including correction, corrective action, and preventive action; documented progress and effectiveness
* Back-room reference for verification matters during audits; front-room experience as subject matter expert

**Weyerhaeuser (7/2013-12/2014)**

Mechanical Engineer, Scale and Development Engineering, Timberlands Technology *Federal Way, WA*

* Programmed control logic and interfaces for multiple PLC automated systems using DirectSoft5
* Developed image analysis program in Matlab (including GUI) for inspection of cellulose fibers products
* Designed and installed custom mechanical equipment for use in lumber mills and development labs

**Medtronic Diabetes (7/2012-7/2013)**

Associate Mechanical Design Engineer, Research and Development *Northridge, CA*

* Wrote design verification test plans and oversaw their execution. Authored corresponding verification reports for product approval and release
* Performed Minitab statistical analyses on test data to quantify design performance
* Constructed Matlab program to standardize a previously subjective visual test method for detecting material stress in injection molded plastic components

**Research Experience**

**Monticello Internship (6/2011-8/2011)**

Robotics Institute, Carnegie Mellon University *Pittsburgh, PA* Mentor: Dr. David Wettergreen

*Bucket Wheel Design for a Lightweight Robotic Lunar Excavator*

* Designed and constructed prototype digging tools for inclusion on a lunar rover
* Balanced project restrictions (power draw, launch weight) with excavation efficiency
* Executed tests in sandbox and performed analyses using Matlab to determine optimal tool design

**Summer Undergraduate Research Fellowship (SURF) (6/2010-8/2010)**

Jet Propulsion Laboratory (JPL) *Pasadena, CA* Mentor: David R. Thompson, PhD

*Current-Sensitive Path Planning for an Underactuated Free-floating Ocean Sensorweb*

* Developed Matlab program to simulate motion of 3000 floating ocean sensors
* Implemented various algorithms to optimize movement of a large-scale system
* First author and presenter of paper at the IROS International Robotics Conference (9/2011)