Krissy (Dahl) Gianforte

Seattle, WA

Krissy.Gianforte@gmail.com
(484) 744 1203

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)*

- 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

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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)