# KUNDAN CHAUDHARY, PH.D.

DATA SCIENTIST

## Summary

Data scientist with 8+ years in analytical roles within cross-functional teams. I specialize in data analysis, visualization, and machine learning.

## Employment

**Apple Inc.** Cupertino, CA
**Analyst-Display Technology** Mar. 2019 to Jan. 2020

- Analyzed large quantity parametric data from engineering development and mass production to extract meaningful information for improving future Apple products
- Redesigned Monte Carlo simulations w/ OLED data to improve display performance
- Assessed OLED metrics w/ engineers during development and production phases
- Presented key data-driven findings to business leaders to inform decisions

**Harvard University** Cambridge, MA
**Research Fellow** Oct. 2018 to Mar. 2019

- Reduced time complexity of predicting polariton resonances via deep neural networks

Cambridge, MA
**Graduate Research Assistant** Aug. 2012 to Sept. 2018

- Conceived, designed, and optimized optical structures such as waveguide, metasurface
- Determined polariton resonances by analyzing large scale hyperspectral imaging data
- Collaborated on >10 projects with research teams at Harvard, Columbia, UIUC, and MIT
- Published 15 papers in top peer-reviewed journals including Nature Communications
- Presented results at major conferences including American Physical Society

Cambridge, MA
**Teaching Fellow (Applied Math)** Jan. 2016 to Dec. 2017

- Introduced Python as a tool for scientific programming to a class of ~40 students
- Led sections on 5 topics including image analysis and deep neural networks

**University of Illinois at Urbana-Champaign** Urbana, IL
**Research Assistant** Jan. 2011 to Aug. 2012

- Applied image processing and statistical methods to study the dynamics of colloids
- Tools included: Matlab

## Projects

(1) Assisting Visually Impaired People Navigate Cities Via Computer Vision

- Developed image captioning model via merge modeling for a description of an image
- Created object detection model for a detailed description of the objects in image/video
- Deployed image captioning and object detection models using Flask API
- Modeling techniques: CNN, RNN, NLP, and transfer learning

(2) Using NLP To Classify If A Given Online Comment Is Toxic Or Not

- Prepared MongoDB to host data running on AWS EC2 instance
- Performed topic modeling to extract the optimal number of types of toxicity
- Devised binary classification models to classify imbalanced Wikipedia text dataset
- Modeling techniques: LDA, LSA, NMF, and clustering methods such as k-means

(3) Multiclass Image Classification For Drone Technology

- Built a high accuracy multiclass image classification model using ensemble learning
- Modeling techniques: random forest, logistic regression, XGBoost, and CNN

(4) Predicting Movie Revenue From IMDB Dataset

- Scraped data from IMDB using Beautiful Soup
- Extracted top features which determine movie revenue
- Modeling techniques: linear regression (w/ ridge & lasso regularizations)

## Contact

kkcbyas@gmail.com
(669) 259-8430
San Jose, CA
linkedin.com/in/kundan-chaudhary
github.com/kundanchaudhary

## Education

**Metis**
Jan. 2020 to Mar. 2020
Metis is an ACCET accredited 12-week onsite data science bootcamp. Topics included Python, algorithms, hypothesis testing, and machine learning.

**Harvard University**
Ph.D. Applied Physics 2018
S.M. Applied Physics 2015

**Illinois Wesleyan University**
B.S. Physics/Mathematics 2010
Summa Cum Laude (GPA: 3.94/4)

## Skills

### Language & Tools
Python
SQL

### Machine Learning
Linear Regression & Regularization
Classification & Clustering Models
Natural Language Processing
Convolutional Neural Networks
Time-Series Forecasting

### Database & Cloud Computing
PostgreSQL/MongoDB
Spark/Hadoop
AWS/GCP

### Data Visualization
Seaborn/Matplotlib/ggplot
Tableau

### Packages
Pandas/Dask
Scikit-Learn
TensorFlow/Keras
OpenCV
NLTK