KUNDAN CHAUDHARY, PH.D.

DATA SCIENTIST

Employment

Metis — San Francisco
Data Scientist — Jan. 2020 to Mar. 2020

- Completed ACCET accredited 12-week onsite data science bootcamp at Metis
- Studied topics including Python, algorithms, hypothesis testing, and machine learning
- Generated 5 end-to-end projects using large real-world datasets. Select projects include:

(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

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

Contact

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Education

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
Git/GitHub
Python
HTML

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

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

Data Visualization
Seaborn/Matplotlib/ggplot
Tableau

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