KUNDAN CHAUDHARY, PH.D.

DATA SCIENTIST

Employment

Metis
Data Scientist
San Francisco
Jan. 2020 to Current

- Metis is an ACCET-accredited 12-week immersive data science bootcamp
- Curriculum focused on Python, statistics, supervised and unsupervised machine learning
- Created five end-to-end projects utilizing real-world data. Select projects include:

(1) Assisting Blind People Navigate Cities via Image Captioning & Object Detection:

- Developed image captioning model for a general description of a scene/image
- Created object detection model for a detailed description of the objects in image/video
- Deployed image captioning and object detection models using flask
- *Modeling techniques included:* CNNs, RNNs, NLP, and transfer learning

(2) Using NLP to Classify If a Given Online Comment is Toxic or Not:

- Created MongoDB to host data running on AWS EC2 instance
- Performed topic modeling to extract different types of toxicity
- *Modeling techniques included:* LDA, LSA, NMF, and clustering methods such as k-means

(3) Multiclass Image Classification For Drone Technology :

- Created a near-perfect multiclass image classification model using ensemble learning
- *Modeling techniques included:* random forest, logistic regression, XGBoost, and CNNs

(4) Predicting Movie Revenue from IMDB Dataset:

- Scraped data from IMDB using Beautiful Soup
- Extracted top features which determine movie revenue
- Modeling techniques included: linear, ridge, and polynomial regression

Apple Inc.
Analyst-Display Technology
Cupertino, CA
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
- Performed Monte Carlo simulations w/ OLED data to improve display performance
- Worked w/ engineers to assess OLED metrics during development/production phases
- Tools included: Matlab and Python

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

- Implemented neural networks in Python to solve inverse design problems in photonics

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

- Designed optical structures (waveguides, resonators, metasurfaces) using Python
- Determined polariton resonances by analyzing large scale hyperspectral imaging data
- Collaborated with multiple research groups at Harvard, Columbia, UIUC, and MIT
- Published 15 papers in high-ranking journals including Nature Communications
- Presented results at major conferences including American Physical Society

Teaching Fellow (Applied Math 50 & 104)
Cambridge, MA
Aug. 2017 to Dec. 2017, Jan. 2016 to May 2016

- Introduced Python as a tool for scientific computing to a class of ~40 students
- Led sections on topics including image analysis and machine learning (DNNs)

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

- Analyzed confocal images to study the 2D & 3D spatial/temporal dynamics of colloids
- Tools included: Matlab

Contact

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https://github.com/kundanchaudhary

Education

Harvard University
Aug. 2012 to Sept. 2018
Ph.D. Applied Physics 2018
M.Sc. Applied Physics 2015

Illinois Wesleyan University
Aug. 2007 to Dec. 2010
B.S. Physics/Mathematics 2011
Summa Cum Laude (GPA: 3.94/4)

Skills

LANGUAGE & TOOLS
Git/GitHub
Python
HTML
Flask

MACHINE LEARNING
Linear Regression & Regularization
Classification & Clustering Models
Natural Language Processing
Convolutional Neural Networks
Recurrent Neural Networks
Reinforcement Learning
Time-Series Forecasting

DATABASE & CLOUD COMPUTING
PostgreSQL/MongoDB
Spark/Hadoop
AWS/GCP

DATA VISUALIZATION
Seaborn/Matplotlib
Tableau

PACKAGES
Pandas/Dask
Scikit-learn
TensorFlow/Keras
OpenCV
BeautifulSoup
NLTK
PyTorch