



ACCOMPLISHMENTS

- Inventor of 2 Patents
- 25+ Scholarly Publications
- Fluent in English, Persian, Polish, Turkish Languages

TECHNICAL STACK

Python, Pandas, NumPy, Matplotlib, Seaborn, Databricks, SQL, Scikit-learn, XGBoost, AWS, Tensorflow, Keras, OpenCV, Optuna, PyTorch, Github, Apache Spark, Docker, uWSGI, NGINX, Flask, FastAPI

ML & AI SKILLS

Machine Learning – Supervised, Unsupervised, Clustering, Dimensionality Reduction, Predictive Modeling, NLP, Statistics, Hypothesis Testing, Exploratory Data Analysis, Data Cleansing, Data Visualization, Model Deployment, Model Production, Neural Networks, Deep Learning, Image Classification, Object Detection, Transfer learning

AWS COURSEWORK

- The Elements of Data Science
- Machine Learning for Business Challenges
- Machine Learning Essentials for Business and Technical Decision Makers
- Machine Learning Terminology and Process
- Exploring the Machine Learning Toolset
- CRISP-DM on the AWS Stack
- Math for Machine Learning
- Machine Learning Security
- Developing Machine Learning Applications
- Amazon SageMaker

CERTIFICATIONS

[Intermediate Python](#)

CodeAcademy

[Deployment of Machine Learning Models in Production](#)

Udemy

[Python for Data Science](#)

IBM

[Visualize Data with Python Skill Path](#)

CodeAcademy

[Statistics Essential for Data Science](#)

Simplilearn

[Learn SQL Course](#)

CodeAcademy

[Machine Learning](#)

Simplilearn

[Deep Learning with Tensorflow and Keras](#)

Simplilearn

[Taming Big Data with Apache Spark and Python](#)

Udemy

[Advanced Deep Learning: Computer Vision](#)

Simplilearn

SUMMARY

- Pragmatic and adaptive research data scientist with strong computer science background, who brings unique perspective by virtue of proficiency in a broad set of disparate Machine learning and AI skills.
- Expert at developing end-to-end machine learning work-flow, managing and maintaining data pipelines needed to bring ML solutions to production using containers.
- Experienced with big data projects and collaborating with cross-functional teams and business partners to drive strategies by leveraging analytical skills to meet business goals. Adept at utilizing ML techniques to develop government proposal.

RELEVANT EXPERIENCE

AI & Machine Learning Engineer

Love, LLP (Contract Job)

March 2023–Present

- Develop analysis and build end-to-end machine learning workflow for injury law web app.
- Collect and analyze data from US legal data and develop predictive models for injury settlement.
- Utilize NLP methods (feature engineering, topic modeling, sentence classification) for analyzing accident reports and generate settlement recommendations based on liability and risk factors.

Research Data Scientist

Nanoscience Technology Center, University of Central Florida

June 2020–March 2023

- Provided mentorship and technical guidance to group of engineers in data science and machine learning that led to two university sponsored patents.
- Collected and analyzed U.S building energy consumption data and tailored cost-efficient strategy utilizing ML and deep learning models to reduce US energy consumption by 4%.
- Performed featurizing engineering and predictive analysis to analyze smart coatings energy performance and generated recommendations based on size, particle concentration, thickness, orientation and region to lower energy bill cost by 40%.
- Developed University Sponsored Patent, USPTO APPLICATION#: 63/381, 928.
- Compared ML models vs. deep learning models to predict thermal transport of solids with unknown complex function.

RELEVANT ML PROJECTS

NLP for opinion mining: Twitter Disaster Relief_DATA [\[Github\]](#)

Detecting particular words in a tweet that determine real tweets for occurrence of natural disaster.

- Text extraction and feature engineering using KGP Talkie.
- Classification models with TD-IDF, Word2vec SVM with 78% accuracy.
- Deep learning models with Word Embedding, Bert and DistilBert with ~ 90% accuracy.
- Deployed DistBert model for production using Flask, uWSGI and NGINX at AWS EC2.

Health Care: ICMR_DATA [\[Github\]](#)

Identifying various cancer types based on genes to reduce fatality rate.

- Dimensionality reduction algorithm using PCA, LDA, t-SNE.
- Classification using Scikit Learn, SVM, RF, KNN, NB, parametrical methods and deep learning methods, ANN, MLP with 90%+ prediction accuracy.
- Data validation using statistical testing models, t-test, F-test.

Cyber Security: [\[Github\]](#)

Identifying URLs for malware.

- Classification Pipeline, binary classification (LR, SVC, KNN) and ensemble technique (XGBoost, RF) with 90%+ accuracy.
- Illustration of diagnostic ability using ROC, AUC.
- Validation accuracy using K-Fold cross-validation & hyperparameter tuning using GridSearchCV.

Retail: Walmart_DATA [\[Github\]](#)

Exploring the sales demand at store-day level for three year time-span.

- Predictive analysis, regularized regression model (Ridge, Lasso) vs non-linear regression models (XGB boost regressor, RF) for all stores and separate model for each store with 85% accuracy.
- Time series analysis to identify yearly trends and seasonal months.
- Deep learning methods, LSTM vs. traditional time series analysis to compare accuracy.

Finance & Computer Vision: [\[Github\]](#)

Lending club loan data analysis, emotion recognition and face recognition.

- Deep learning algorithm models using Keras, Pytorch, Torch vision.
- Customized CNN, transfer learning models (ResNet, VGG-16, Mobilenet).
- Data augmentation and image representation learning using computer vision.

EDUCATION

Post-Graduate Masters in AI & Machine Learning

Purdue University, IN, USA

Fall 2021 – Winter 2023

Ph.D. in Applied Physics and NanoEngineering

University of Boulder Colorado/Norwegian University of Science and Technology

Fall 2015 – Spring 2020

Masters in Condensed Matter and Nanoscience

University of Strasbourg, Strasbourg, France

Fall 2012 – Fall 2014

Masters in Physical Foundation of Computer Science

Wroclaw University of Science and Technology, Wroclaw, Poland

Fall 2009 – Fall 2013