# Suhas Maddali

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GitHub | LinkedIn | Medium

## TECHNICAL SKILLS

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| **Programming Languages:** | Python, R, SQL, C++, Java, C, MATLAB, MongoDB |
| **Libraries:** | Sklearn, NumPy, Keras, TensorFlow, Pytorch, Seaborn, TensorFlow Extended (TFX) |
| **Tools Used:** | Docker, Kubernetes, AWS, Google Cloud, Spark, Rapids, Git, Tableau, Scala, Hadoop |
| **Certifications:** | Machine Learning by Stanford University, Deep Learning Specialization by Andrew Ng, Machine Learning Engineering for Production (MLOps) Specialization, Data Science and Machine Learning Bootcamp with R |

## PROFESSIONAL EXPERIENCE

**Data Scientist Intern | NVIDIA,** Santa Clara, USA                              **May 2022 – Aug. 2022**
- Built robust **machine learning** and **deep learning models** for predicting the demand and supply constraints.
- Collaborated with many **data scientists** and **machine learning engineers** to build an **end-to-end machine learning system** that has stages from data extraction to deployment of models along with monitoring of the output.
- Worked exclusively on building models that are highly **explainable** to the users and the business before taking decisions.
- Documented and highlighted the **weaknesses** and **strengths** of various state-of-the-art deep learning and machine learning models along with their practical implementation to the business.
- Reduced the **Mean Absolute Percentage Error (MAPE)** by **15%** as compared to **state-of-the-art** models.

**Research Assistant | Khoury College of Computer Sciences,** Boston, USA          **June 2021 – May 2022**
- Handled **Neural Networks (NNs)** for systems and analyzed their behavior and verified them for use.
- Implemented state-of-the-art **NN-verification** tools and built certified neural networks for computer systems.

**Graduate Teaching Assistant | Khoury College of Computer Sciences,** Boston, USA     **Dec. 2021 – April 2022**
- Assisted in coordinating college-wide **staff meetings** and **assemblies** for students.
- Supported each student's **social** and **emotional** development and encouraged them to pursue their curiosity and interests.

**Data Scientist | Solbots Technologies,** Hyderabad, India                       **Jan. 2018 – Aug. 2020**
- Developed **Statistical Analysis** and **Statistical Modelling** using Python to understand the grip of bionic hand.
- Executed computer vision algorithms for image segmentation and recognition using **OpenCV** and **Matplotlib**.
- Oversaw my team in applying data analysis, data engineering and data mining methods for computer vision.
- Built a **fully functional** application that extracts information from an image and classifies the objects present in the scene.

## PROJECTS

### Washington Bike Demand Predictor
- Performed **Exploratory Data Analysis** in **Python** and innovatively added 8 new features to large, complex dataset for prediction of bike demand and explored the features.
- Employed Machine Learning Models such as Deep Neural Networks, K Nearest Neighbors, PLS Regression, Decision Tree, SVM, Clustering, Gradient Boosting Regression (Xgboost) and Logistic Regression.

### Wheat Disease Detection Using CNNs and Transfer Learning
- Programmed with networks such as **VGG19**, **Xception**, **InceptionV3** and **ResNet152** to predict the diseases in wheat.
- Achieved an accuracy of **97 percent** on the cross-validation data of images of wheat.

### Predicting the Readability of Text Using Machine Learning
- Analyzed text embedding such as **BOW**, **TF-IDF**, **Word2Vec**, **BERT, GPT-2, GPT-3, LLMs** and **Roberta** for text analysis.
- Achieved a **mean absolute error** of 27 for prediction of readability of text.

### Solar Panel Dust Detection
- Built Solar Panel Classifier with **YOLO**, **RCNN**, **Fast RCNN**, **Faster RCNN, Mask RCNN**, **SSD**, **DenseNet**, **MobileNet**.
- Achieved an accuracy of approximately **90 percent** on the test data of images of solar panels and developed an **API**.

### Car Prices Prediction and Analysis
- Predicted car prices by considering factors such as Horsepower, MPG, Vehicle Size, Transmission and Popularity.
- Accomplished a **mean absolute error (MAE)** of **3327** for the test data.

## EDUCATION

**Northeastern University**, Boston, MA                                        **Sept. 2021 – May 2023**
**Khoury College of Computer Sciences**
*Master of Science in Data Science*
**Expert In:** Supervised Machine Learning, Natural Language Processing (NLP), Computer Vision, Unsupervised Machine Learning
**Arizona State University**, Tempe, AZ                                        **Sept. 2020 - May 2021**
*Master of Science in Software Engineering*