
HEMALATHA MANIKANDAN

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PROFESSIONAL SUMMARY

Amiable Technical Lead ready to rapidly onboard new personnel and kick start new projects. Achieves rapid and exceptional completion metrics through careful utilization of available skills and technical assets. Assembles effective teams by exploiting complementary competencies and collaborative employee relationships.

SKILLS

Programming: Matlab, Python, R-Program

ML Packages: Numpy, Scipy, Stats, Pandas, Sklearn,

NLTK, BeautifulSoup, Keras, TensorFlow.

Algorithms: Naive Bayes, Regularization techniques (Ridge, Lasso),

Apriori algorithm, CART, Bagging (Random Forest),

Boosting (XGBoost, LightGBM). K-means, K-medoids,

Hierarchical clustering, Gaussian Mixture, Principal Component Analysis.

Deep Learning: Convolutional Neural Network

(CNN), Long Short-Term

Memory (LSTM)

Statistics: Descriptive Statistics, Inferential

Statistics (Correlation,

Chi-square test, Association), Hypotheses testing (ANOVA, F-test, Z-test)

MLOPS: Kubernetes, Docker,

Simulation s/w: Polymath, Design Expert

(DOE), Minitab, Aspen,

AxiSuite, Simulink, ExACT.

EDUCATION

Master of Science: Chemical Engineering, 06/2013

Indian Institute of Technology Madras - Chennai, India

Bachelor of Technology Chemical Engineering, 06/2006

Pallavan Engineering College - Chennai

CERTIFICATIONS

Certificate obtained on "Advanced Machine learning using Python" certified by "Gyan Data Pvt Ltd Indian Institute of Technology Madras- Research Park".

Secured 11th University Rank in my Bachelors in Chemical Engineering across Tamilnadu

WORK HISTORY

Technical Lead, 06/2021 - Current

Tech Mahindra – Chennai, IN

Project Handled

Operationalizing the ML Model Application on on-Prem and GCP for Automobile Industry

- Productionizing the Machine learning based application for the inference.
- Logging and Monitoring the application using the in-house tool
- Authorization and Authenticating the application using the role-based approach and ADFS (Active Directory Federation Service) respectively
- Running the Data Pipeline using Apache Beam Wrapper.

Modeling the ML Algorithm for Banking Industry

- Extracting and Analyzing the Unstructured data using EDA.
- Modeling the Stability Index (SI) of the wealth advisor using Splunk and Python.

Senior Statistical Analyst, 08/2020 - 06/2021

Orion Innovation Limited – Chennai, IN

Project Handled

Conditional Alerting of the document using NLP

- Web Scrapping the article for the predefined classes and severity level
- Extractive summarization using Bert-Summary approach
- Sentence Classification for the extracted corpus
- Creating the API using flask for Web service application

Relational extraction and comparing the NLP model

- Preprocessing the Unstructured data using the NLP approaches
- developing the NLP model for the data and comparing the performance of the model

Senior Software Engineer, 03/2019 - 07/2020

Hexaware Technologies limited – Chennai, IN

Project Handled

Modeling the system using deep learning for real time video stream analysis.

- Built and configured the system camera device's media pipeline to start streaming video into the AWS cloud using **Amazon Kinesis Video Streams**.
- Modelled Object detection using SingleShotDectector(SSD) framework and Mobilenet architecture.
- Estimated the dimension, color and physical properties of the object detected.
- Improving the performance using Transfer learning with Data augmentation.
- Deployed the Model in **Amazon Sage Maker** to generate inferences about objects.
- Built the browser-based web player to view the analyzed video stream in live/on-demand.
- Web scrapping using BeautifulSoup

Modeling the Predictive Analysis.

- Prediction using “**Supervised regression algorithms**” and find the potential reduction in the variation between Cost.
- Deployed it as “**Web service**” using “**Flask**” microservice and tested it using Postman.
- Recommending the services for the customer using Apriori Algorithm.

Responsibilities

- Worked with project managers, developers, quality assurance and customers to resolve technical issues.
- Trained and mentored junior developers and engineers, teaching skills in DataScience and working to improve overall team performance.
- Analyzed proposed technical solutions based on customer requirements.

Data Analyst, 08/2018 - 12/2018

Gyan Data Private Limited – Chennai, IN

As Data Analyst, responsible for undertaking projects in data analytics.

Worked on the automobile related case studies, where incorporated the Machine learning algorithms.

Analyzed the problem, by means of Regression, Regularization technique.

In regression, involved the techniques of Linear, Non-linear, Ridge and Lasso regression.

worked on Exploratory data analysis.

Cross validating the model for regression and classification model.

CAE Analyst, 06/2015 - 06/2018

Mercedes Benz Research and Development Private Limited – Bangalore, IN

Projects Handled

- Calibration and Optimization of Reaction Kinetics using **Artificial Intelligence** based Optimization algorithm.
- Data driven model development for Exhaust system components using **Neural Network**.
- Data driven Exhaust system development and evaluation using **Descriptive statistics**.
- DPF temperature prediction using supervised **Machine learning Models**.
- **Unsupervised Clustering** for Drive Cycle development and load cycle prediction using fleet data.
- **Time series** analysis and descriptive data analysis of the fleet data.

Research Scholar, 01/2010 – 06/2013

Indian Institute of Technology Madras-Chennai, IN

Job Profile:

- Conceptual studies on the “**Process intensification and optimization using advanced technologies and data driven modeling approach**”.
- Carried out the research on “**Fluid-Solid Extraction system**” using conventional and general factorial design of experiment (DOE) approach.
- Engineered the non-catalyzed solid pore size, extraction temperature, ultrasonic frequency and extraction time on the extraction process.
- Derived **data driven model using Supervised Regression approach** to account for both internal and external mass transfer resistance in the extraction process.
- **Statistically analyze the significance of the operational parameters and its interaction effects on the extraction.**
- **Developed model Correlation and ANOVA tables based on the statistical analysis.**
- Process optimization using statistical software Design Expert.
- Facilitating technology evaluation in the areas of Extraction technique.
- Monitoring development & study of non-diffusive rates on laboratory & demo experimental setup
- Fabrication of Laboratory Experimental Set up & their application

Application Engineers, 01/2007 – 09/2009

Emerson Process Management- Chennai, IN

Job Profile:

- Process engineering and design of equipment for various process industries.
- Optimization of the process parameters for safety, efficiency and economics.
- Worked on the development of General and Severe service control valves, regulators and positioners for various industries.
- Selection of suitable material according to ASTM, ASME, DIN Standards for various process fluids at different rating.
- Engineered control valves for process fluids, which undergoes high-pressure drop like cavitation, Flashing, Noise with operating range of CV.
- Cost estimation of the equipment.
- Engineering the Hydraulics equipment
- Preparation of datasheet for the equipment.
- Review the Mechanical datasheet and engineering the equipments.
- Preparation of Technical Bid Evaluation.
- Inter discipline checking for P&ID, Process datasheets and foundation detail drawings.

Place: Chennai, India.

Date:

Best Regards,

HEMALATHA