Sri Hari Sivashanmugam

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EXPERIENCE

Junior Machine Learning Engineer, **OMDENA** *Aug 2021 - Nov 2021*
- Collaborated with 58 data scientists across countries to expand cardiac arrest prediction to pulseless electrical activity.
- Cataloged exploratory data analysis: visualization and documentation for the project in form of videos, infographics, and 2 project reports.

Data Scientist Intern, Caterpillar Inc. *Jan 2021 - Jul 2021*
- Executed Marketing to Sales Attribution; improved sales per marketing campaign leveraging statistical methods by 8%.
- Analyzed ready-to-buy model, improved second purchase for 50000 single purchase customers using innovative solutions.
- Evaluated important features reducing it from 90+ features to 40+ features for the existing customer purchase model.
- Designed an optimized web page for the Customer Experience division, operated daily by over 45000+ people.

PROJECTS

Modularized Workplace Safety Monitoring System
- As finalist of Grainger Competition 2021, Developed a workplace safety monitoring system (Pose Estimation, Face Mask detector module, new modules can be added as needed) with plug and play scaling capability
- Introduced a highly accurate and real-time technique that can efficiently detect people not wearing masks
- Used MobileNet architecture to increase the accuracy to 99 percent of the face mask detector
- Google's Blazepose architecture detected the 33 key points from the body using the Mediapipe library
- Modularized the system using Object-Oriented Design, and presented it as a subscription-based cloud service strategy

Designed and Developed a Database Management System
- Developed a 4 tier Database Management System - storage manager, buffer manager, Index, and record manager
- Implemented design concepts like buffer manager and indexes to optimize the query execution
- Fixed memory leaks, improved storage efficiency, designed the indexed manager using B+ tree to increase search speed

Image Caption Generator Using Auto Encoder
- Created a merge architecture in order to keep the image out of the RNN/LSTM and thus be able to train the part of the neural network that handles images and the part that handles language separately
- 32000 data points (image and text) were used to train and validate the model resulting in a precision of 93%
- Implemented transfer learning methods to build the convolutional model; Used pre-built Glove model as embedding layer in the recurrent model

Pneumonia Detection Using Deep Convolutional Neural Network
- Built a Convolutional Neural Network model to classify a chest X-Ray to be affected by pneumonia or not.
- Implemented transfer learning using the VGG-16 model to obtain better accuracy than traditional models.

EDUCATION

Masters , Data Science *Aug 2021 - May 2023*
Illinois Institute of Technology GPA: 3.7
Bachelor of Technology, Computer Science and Engineering *May 2017 - May 2021*
Amrita Vishwa Vidhyapeetham GPA: 8.9

SKILLS

Languages: Python, R, SQL, Java, C, HTML, CSS, JavaScript
Tools and Technologies: Feature Engineering, Hypothesis Testing, Data Visualization, Model Evaluation, Machine learning - Regression & Classification Algorithms, Deep learning, Hyperparameter Tuning, Attribution Modelling, Survival Analysis, Jupyter, Colab, Pycharm, Rstudio, Eclipse, VS Code, AWS S3, AWS EMR, Hadoop
Visualization : Matplotlib, Seaborn, Power BI, Excel Charts

Extracuricullar

- **Integrity Preserved Multifactor Authentication Based Automated Ticketing System (Publication)**
- **Enhancing Security Of One Time Passwords In Online Banking Systems (Publication)**
- Media and 4sight/Metric Lead for Intinium **(Student Organization)**
- Volunteered for Robinhood Army - Food Distribution Campaign
- Completed a course on Applied Plotting, Charting & Data Representation in Python (University of Michigan)
- Secured within the **top 10** positions in a 12-hour **AISmart Hackathon** conducted by **Intel**

Coursework

- Machine Learning, Neural Network and Deep Learning, Big Data, Advanced Database Organization, Applied Statistics, Database Management, Object-Oriented Programming, Data Structures, and Algorithms