Poornav Sargur Purushothama

Machine Learning, Data Science, AI

+1 (858) 284-7484 | poornavsargoor@gmail.com | in/poornav-s-p | git/poornav | San Jose, CA

PROFESSIONAL EXPERIENCE

Aruba Networks (HPE) | Santa Clara, CA — 2 yrs 6 mos | **Apr 2018 - present**

Data Scientist (full-time)

- Built and developed an ensemble of Device Classifiers to categorize devices in a network. Used Char-based 1D-CNN (Convolutional Neural Network) model for text data, Random Forest and Decision Tree models for categorical and numerical data. Improved accuracy on device classification from 72% to ~96%.
- Built and developed an Unsupervised Clustering algorithm to cluster devices together that behave in similar ways. Used LDA (Latent Dirichlet Allocation) to extract latent topics from textual, categorical and numerical features. Used K-means and Hierarchical Clustering techniques to create clusters. The model is actively clustering more than 10 million devices in the production environment.
- Built ETL Data Pipelines using PySpark to process raw data, extract useful features, encode the features and visualize them.
- Automated and enhanced the visualization dashboards to measure and monitor various metrics in the classification and clustering models. Helpful in knowing when a new model should be trained and deployed, in tracking and analysing the impact of certain features in the models and debugging the output of the models.

Selected Achievements:
Developed Classification models using Char-Based 1D-CNN and Random Forests. Accuracy increased from 72% to ~96%.
Developed Clustering model using LDA (for latent feature extraction) and K-means (clustering). Actively clustering ~10 million devices.

Tech skills & tools: Tensorflow-Keras, Spark, Sklearn, Pandas, Apache Superset, Streamlit

Aruba Networks (HPE) | Santa Clara, CA — 3 mos | **Jun 2017 - Sep 2017**

Intern - Software Developer (Internship)

- Executed the deployment of Aruba's top security product (ClearPass) to the cloud. ClearPass is primarily sold as a hardware product. With the deployment of ClearPass on cloud, customers can install ClearPass on an EC2 instance in their private AWS cloud without having to purchase the hardware. More than 20 customers all over the world are actively using ClearPass on cloud.
- Collaborated and negotiated across multiple teams, services and components to understand the inner workings of the product, make necessary changes and get the project to completion in 3 months' time.

Selected Achievements:
Executed the deployment of Aruba's top security product (ClearPass) to the cloud in 3 months' time.
More than 20 customers all over the world are actively using ClearPass on cloud.

Tech skills & tools: Distributed Systems, AWS, VPC, Docker, and routing tables.

Nokia Networks | Bangalore, India — 6 mos | **Feb 2016 - Aug 2016**

Intern - Software Developer (Internship)

- Developed a communication module between Network Management Systems and Network Elements. Built thread modules, Rest APIs, timer tasks and IPC modules in JAVA.
- Enhanced and improved the structure of configuration database from storing data serially to storing it as an n-ary tree which reduced the search time complexity from O(n) to O(logn). Received spot award for speeding up the search process.

Selected Achievements:
Reduced the search time complexity from O(n) to O(logn). Received spot award for speeding up the search process.

Tech skills & tools: Rest APIs, timer tasks, IPC modules, Java

Projects and Open Source

SMARTer | UC San Diego, CA — 10 mos | **Sep 2017 - Jul 2018**

Graduate Research Project

- Built and enhanced a Siamese CNN to create a latent space of 2D-NMR spectra of naturally occurring compounds. This latent space is then used to find similarity between a new natural compound with the plethora of existing ones. My work was instrumental in bringing down the loss of the Siamese Net and achieving a nice precision-recall curve.
- Implemented PLSI (Probabilistic Latent Semantic Indexing) to find similarity between naturally occurring compounds as a baseline model for performance comparison.
- Digital acceptance of SMARTer at the Machine Learning and Physical Sciences workshop at NeurIPS 2019.

Selected Achievements:
Enhanced Siamese CNN which was instrumental in bringing down the loss and achieving a nice precision-recall curve.
Digital acceptance of SMARTer paper at the Machine Learning and Physical Sciences workshop at NeurIPS 2019.

EDUCATION

University of California, San Diego, California, United States — **Sep 2016 - Mar 2018**
Degree: Master of Science, Computer Science (Machine Learning and AI) . GPA: 3.77/4

PES Institute of Technology, Bangalore, Karnataka, India — **Jul 2012 - May 2016**
Degree: Bachelor of Engineering, Information Science and Engineering. GPA: 9.18/10