DEEPIKA VADLAMUDI

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SUMMARY

- 2.5+ years Software development experience looking for opportunities in the field of Computer Science
- Actively involved all phases of project lifecycle including building data pipelines, visualizing, modeling, testing, and deployment
- Experienced in working with machine learning algorithms and proficient with developing neural networks such as ANNs, CNNs, RNNs, LSTMs using Keras, TensorFlow, and PyTorch
- Experience with working Bigdata tools like Apache spark, Hadoop, Hive
- Ability to write well documented, clean and efficient code for deployment.

EDUCATION

Stevens Institute of Technology, Hoboken, NJ
Master of Science in Computer Science. GPA: 3.83 Dec 2021
Jawaharlal Nehru Technological University College of Engineering, Sultanpur
Bachelor of Technology, Computer Science June 2018

SKILLS

Programming Languages: Python, MATLAB, SAS, C, JavaScript, HTML, CSS, SQL, R, Shell scripting**,** CUDA
Libraries/Frameworks: AWS Sagemaker, EC2, S3, Azure, Lambda, Hadoop, Scikit learn, NumPy, Pandas, Torch, OpenCV, Spark, TensorFlow, Hive
Technical Expertise: Algorithms, Machine Learning, Deep Learning, Data Mining, Adversarial Robustness, Recommender Systems, Analytics, Statistics, Optimization techniques, Cloud technologies

WORK EXPERIENCE

Field Engineer – ***Domino Data Lab***, New York City, USA Jan 2022 – Present

- Served as Technical Account manager for multiple clients – developed customer specific solutions, managed customer relations increasing customer satisfaction and ensuring renewals
- Designed, implemented, and conducted a comparative analysis of running a Dense Neural Network for image recognition in a sequential vs distributed manner using Ray on Domino Platform
- Implemented several Machine Learning and Data Science related projects using TensorFlow, Keras, PyTorch, OpenCV, Jupyter on Domino Data Lab platform and delivered Proof of Concept Demos to clients and prospective customers
- Automation of tasks such as user management, creating backups have been handled by designing appropriate scripts
- Identified user requirements that are not supported by the product; implemented them as field solutions using python scripts, bash scripts, and R scripts
- Led training sessions about product, workshops on on-demand Spark, and advocate best practices for ML workflows for multiple users online and on-site
- Analyzed customer usage of product, reported, and designed areas for future Domino improvement

Environment: Python, Docker, Kubernetes, AWS, Linux, MLOps, Ray, TensorFlow, Keras, OpenCV, Jupyter

Software Engineer, Risk Analysis – ***Amazon***, Hyderabad, India Oct 2019 – Dec 2019

- Investigated suspicious activities and fraud behaviors which could pose a risk to Amazon and its customers
- Designed features helping risk analysts improve monitoring fraudulent orders, saw significant increase in efficiency
- Identified fraudulent patterns, discovered modus operandi, took actions like verifying customers to minimize risk
- Took necessary actions to identify and help minimize Amazon's financial, legal, and reputational risk

Environment: Python

Machine Learning Engineer – *Ridhan Technologies*, Hyderabad, India Oct 2018 – Sep 2019

- Used SQL to retrieve data from cloud; designed a script using JavaScript to plot the data as an ECG graph
- Designed and implemented Deep Neural Nets for anomaly detection in ECG signals
- Leveraged AWS S3, lambda, and Amazon Sagemaker to deploy the model into testing phase before deploying into production

Environment: Python, SQL, JavaScript, DNNs, CNNs, TensorFlow, PyTorch, AWS S3, Lambda, Amazon Sagemaker

Research Intern - *Advanced NUmerical Research and Analysis Group, DRDO,* Hyderabad, India Jan 2018- Nov 2018

- Examined performance of PCA over different data sets
- Created code using MPI to be computationally efficient by running it over multiple processors
- Drafted a detailed report about the project using LaTex which could later be utilized for projects needing PCA as a module

Environment: Linux, MPI, C, Latex

Project Trainee - *Institute of Development and Research in Banking Technology*, Hyderabad, India May 2017 – Jul 2017

- Studied various machine learning and data mining algorithms, Collaborated in research on particle swarm Optimization
- Implemented PCA in MATLAB, experimented for efficiency using various mathematical techniques on large datasets

Environment: MATLAB, Latex

PUBLICATIONS

- Robust Learning of Halfspaces in the presence of Agnostic Noise – A study, implementation, design and analysis of Algorithms - ProQuest Dissertations Publishing, 2021. 28867500 Dec 2021
- V. Ch. Venkaiah and V. S. P. Deepika: A novel self-healing key distribution scheme based on vector space access structure and MDS codes, International Journal of Communication Systems Sep 2019
- Co-authored "Mathematical Essentials", a chapter in the book "Handbook of statistics Vol38 - Computational Analysis and Understanding of Natural Languages: Principles, Methods and Applications" edited by C.R. Rao and Venkat Gudivada, and published by Elsevier Sep 2018

GRADUATE WORK EXPERIENCE

Graduate Teaching Assistant – *Stevens Institute of Technology* Jan 2021 – Jan 2022

- Served as teaching assistant to courses: Deep Learning, Probability and Stochastic Proc., Mathematical Foundations of ML
- Held office hours to clarify concepts, help students with assignments, project ideas and design
- In charge of designing and grading assignments in python and MATLAB, drafted questions for term examinations

ACADEMIC PROJECTS

Robust Learning of Halfspaces with Agnostic Noise

- Developed efficient algorithms to robustly learn halfspaces in presence of agnostic noise improving performance from exponential to polynomial time complexity
- Leveraged basic mathematical techniques such as SVD and gradient descent to achieve better computational complexity

Parallel Implementation of CNN for Image Classification using CUDA

- Conducted classification of given image on GPU, leveraged transfer learning, deployed prefetching and streams
- Gained 38x speed than sequential version; program is memory efficient, accomplished 100% occupancy

Plagiarism Detector

- Examined text files and performed binary classification. Labeled it plagiarized or not by comparing it to source text file
- Selected features for comparing similarity between two text files by analyzing correlations between different attributes
- Deployed plagiarism-classification model using Amazon SageMaker

Classification of Pima Indians Diabetes Dataset using AdaBoost with MLE as Base Classifier

- Implemented using MATLAB and Python; leveraged boosting technique to improve accuracy
- Analyzed results by varying different parameters; identified possible improvements

Parallel Implementation of PCA using MPI

- Modified PCA by leveraging different mathematical techniques to achieve higher performance using multiple processors
- Attained 9X higher performance than sequential PCA. Recognized as best project of 2018, JNTU-CS department

ACTIVITIES

- Teaching Assistant for the session *"Large Scale Deep Learning using the High-Performance Computing Library OpenMPI and DeepSpeed"* at ODSC-West-2022
- As undergraduate, served as volunteer peer tutor in *Probability and Statistics*, *Algorithms*, *Data Structures,* and *Intro to Machine Learning*
- Elected as core coordinator for both technical and cultural fests at *Jawaharlal Nehru Technological University*