Vinay Pandya

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INTRODUCTION:

As a Software Developer, I find fulfillment in creating solutions that enhance efficiency and user experiences. My proficiency in Java, Python, and diverse frameworks has been instrumental in automating processes, leading to a notable 20% improvement. I bring experience in full-stack development, emphasizing the creation of reliable, user-centric platforms.

RELATED COURSEWORK:

Topics in Machine learning, Design and Analysis of Algorithms, Object Oriented Programming, Wireless Mobile and Networking, Cloud Computing, Topics in Artificial Intelligence, Advanced C++.

TECHNICAL SKILLS:

- **Machine Learning:** PyTorch, Keras, Tensorflow, weights and Biases, PyTorch geometric-> Graph Machine Learning.
- **Machine Learning Explainibity**: Shapely values,
- **Backend:** Node.js, Java, Python, C++,
- **Cloud Platform:** AWS, GCP, CDK (Cloud Development Kit), Heroku
- **Orchestration:** Docker
- **Database:** SQL
- **Version control CI/CD:** Github, Gitlab.
- **Other languages:** R, Julia, C++, C, Matlab

RELATED EXPERIENCE:

Software Development Engineer - Amazon (MLBX and Alexa): Aug 2022 - Current

Collaborated across MLBX and Alexa teams, improving data access and automation processes:

- Streamlined dataset access, reducing downtime from 90 days to 2, boosting productivity significantly.
- Developed pipelines enhancing automation rates from 15% to 20%, contributing to smoother operations.
- Innovated scalable solutions for ML model deployment, prioritizing adaptability and efficiency.
- Implemented Large Language Models (**LLM**) for Alexa's **ML automation**, simplifying data collection and
- Deployment.
- Engineered an A/B testing platform, refining performance assessments for Alexa and Amazon **ML models**.
- Leveraged tools like **AWS, CDK, Java, SageMaker, and Docke**r to support these initiatives.

Associate Software Engineer (Accenture Services Private Limited): Sep 2018 -Sep 2019

- Used **Node.js, Auth0, Heroku, dialogflow** to build a chatbot which can integrate with Pager duty to solveincidents and produce timely reports, increasing the response time by 20%.
- Used Splunk to create dashboards and provide analysis on data gathered from various sources thereby improving the financial gains by 10%.
- **Automated integration** of PagerDuty to Dialogflow reducing response time by 20%.

PROJECTS:

Malware detection from Opcode Sequences and Bigrams: (San Jose State University, San Jose, USA) Aug-2021-May-2022

- Created a malware detection algorithm which can detect a malware by disassembling opcode sequences. Utilized **BERT** and **XLNet** architectures and various other ensemble methods to improve the accuracy from 95% to 97%.
- Created various explainability procedures for testing malware and deep diving into various **LLM**(large language models) for malware classification.

Automatic Image Captioning: (**San Jose State University, San Jose, USA) Jan 2021 – April 2021**

- Developed an Image Captioning software which can automatically tag and caption images without any human intervention. Utilized various deep learning and supervised learning frameworks to build an efficient model to caption images which achieves the BLEU score of 63.05.

Identifying fraud transactions In Elliptic dataset: (San Jose State University, San Jose, USA) Feb 2022 - April-2022

Utilized different GNN(Graph neural network) paradigms to identify illicit nodes in a blockchain transaction graph.

- Used spectral graph theory and cosmograph to Identify clusters.
- Used GraphSage architecture to achieve accuracy of 96%.
- Used Graph explainer to explain the predictions of message passing models.

EDUCATION:

Masters in Computer Science: Aug 2020 – May 2022
San Jose State University, San Jose CA,GPA=3.6/4.0

Bachelors in Computer Engineering: Aug 2014 – May 2018
K.J. Somaiya College of Engineering, Mumbai University, Mumbai (India), GPA=8.2/10.0

PUBLICATIONS:

1. Pandya, V., Di Troia, F. (2023). "Malware Detection through Contextualized Vector Embeddings."In: 2023 Silicon Valley Cybersecurity Conference (SVCC), IEEE, Pages 1-7.

2. Pandya, V. (2022). "Contextualized Vector Embeddings for Malware Detection." (**Downloads**)

3. Kale, A.S., Pandya, V., Di Troia, F., Stamp, M. (2023). "Malware classification with word2vec, hmm2vec, bert, and elmo." Journal: Journal of Computer Virology and Hacking Techniques, Volume 19(1), Pages 1-16. Publisher: Springer.

4. Mahajani, A., Pandya, V., Maria, I., Sharma, D. (2018). "Ranking-based sentence retrieval for text summarization." In: Smart Innovations in Communication and Computational Sciences: Proceedings of ICSICCS-2018, Pages 465-474. Publisher: Springer.

5. Mahajani, A., Pandya, V., Maria, I., Sharma, D. (2019). "A comprehensive survey on extractive and abstractive techniques for text summarization." Journal/Conference: Ambient Communications and Computer Systems: RACCCS-2018, Pages 339-351. Publisher: Springer.