KISHORE KUMAAR NATARAJAN

1700 North First Street, San Jose, CA, 95112

+1 (510) 386-5844 | kishore.nat98@gmail.com | www.linkedin.com/in/kishorekumaar

EDUCATION

M.S., (*Artificial Intelligence)*, San Jose State University, San Jose CA GPA 3.66/4 **Excepted Graduation Dec 2023**

Relevant Coursework *Machine Learning, Data engineering, Deep Learning, Computer Vision, Reinforcement Learning.*

B.E., *(Computer Science and Engineering)*, Sathyabama University, India GPA 3.83/4 **July 2016 - May 2020**

Relevant Coursework *Data Structures, Operating Systems, Database management Systems, Data Mining, Advanced Data Mining.*

TECHNICAL SKILLS

Programming languages & OS: Python, C, C++, Java, MySQL, Javascript, HTML, REST API, CentOS, Linux
Python Libraries: Pandas, Numpy, Tensorflow, PyTorch, Matplotlib, Scikit, Scipy, Networkx, Ray, Flask
Amazon Web Services: AWS CLI, EC2, S3, Lambda, RDS, EBS, Cloud Watch, Cloud Formation, Cloud Trail
DevOps Tools: Jira, Ansible, Jenkins, Docker, Bitbucket, Git, Kubernetes, Confluence

WORK EXPERIENCE

Programmer Analyst, Cognizant Technology Solutions, India **Sep 2020 - Dec 2021**

- Developed automation scripts using Python and Ansible for migrating clients' projects from one cloud service to another (including migrations from Azure to AWS and GCP to AWS) and created project instances using AWS services (EC2, CloudWatch & CloudFront).
- Executed automation scripts in a Linux environment using shell scripting and developed a Python script for creating and updating Jira issues.
- Implemented a machine learning model to automate the process of classifying and categorizing Jira issues based on their content and priority level.

Cloud and DevOps Intern, Cognizant Technology Solutions, India **Jan 2020 - May 2020**

- Analyzed and reviewed existing projects, updated them with new features using AWS services such as Lambda, CLI, S3 buckets, and SageMaker.
- Leveraged DevOps tools such as Terraform, Ansible, and Docker to create CI/CD pipelines.
- Implemented a machine learning model using SageMaker to predict future trends and patterns in the data, improving project performance and decision-making capabilities.

PROJECTS

Intelligent Car Braking System: Enhancing Performance through Reinforcement Learning (*Python, gym, MuJoCo, Pytorch, matplotlib)*

- Designed a simulation of an Intelligent Car Braking System to reduce vibration and noise during braking.
- Developed components using the MUJOCO simulation tool to generate data for creating Limit cycles and used GANs to generate additional data.
- Applied Reinforcement Learning algorithms, including Proximal Policy Optimization (PPO) and Multi Agent Deep Deterministic Policy Gradient (MADDPG), to adjust the friction coefficient for vibration-less brakes.
- Utilized Neutral Networks to enhance the braking system's performance, resulting in a more efficient and effective solution.

Sentiment Analysis of Product Reviews using AWS SageMaker (*Python, TensorFlow, AWS SageMaker, AWS Comprehend, NLP)*

- To build a machine learning model to analyze customer reviews and classify them as positive, negative, or neutral.
- Collected a large dataset of product reviews from online e-commerce websites.
- Preprocessed the data by removing stop words, punctuation, and converting words to their root form.
- Trained and evaluated multiple deep learning models such as Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs) using Amazon SageMaker and deployed the best-performing model on AWS SageMaker for real-time predictions.
- Integrated the deployed model with AWS Comprehend to extract key information and sentiments from customer reviews.

Image Tagging Project (*Python, TensorFlow, Keras, OpenCV, Flask)*

- To develop a deep learning model that can automatically tag images with descriptive keywords, such as "beach," "sunset," or "cityscape" and implemented data augmentation techniques to improve model accuracy and robustness.
- Utilized transfer learning to leverage pre-trained models on large datasets, achieving higher accuracy and faster training times. Adapted the model for multi-label classification to handle images that contain multiple objects or scenes. Incorporated user feedback through a web interface to fine-tune the model and improve accuracy.
- Analyzed the model's decision`s using saliency maps and LIME to understand how the model is making its predictions.
- Integrated the image tagging model with other systems, such as image search engines, to provide more relevant results.

CERTIFICATIONS: Microsoft Certified: Azure AI Engineer Associate | Machine Learning with TensorFlow on Google Cloud Platform Specialization

AWARDS: Python Champion: Winner of INFICODEC Coding Competition |Innovative Thinker: Winner of the Cognizant Hackathon 2019