Aakash Kaushik *SOFTWARE DEVELOPER*

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PROFESSIONAL EXPERIENCE

NimbleBox.ai, Software Developer ⊡   10/2020 – present
- Contributed to the Core Engineering Department with a focus on architectural design, deployment of generative AI systems, and infrastructure deployment solutions.
- Developed core services and servers for efficient management of object stores, optimizing data handling processes.
- Spearheaded the creation of sidecar servers, running seamlessly on all instances, enabling native instance management across multiple cloud platforms.
- Led and participated in a variety of cross-functional tasks and projects, enhancing system performance and functionality.

OptimEyes.ai, AI/ML intern ⊡   11/2021 – 06/2022
- Specialized in cyber-security, data-privacy, and compliance risk exposure solutions through AI applications.
- Pioneered data-driven approaches to analyze and optimize cloud risks for clients while adhering to budget constraints.
- Implemented machine learning systems to automate risk assessment processes, enhancing efficiency and accuracy.

Google Summer of Code 2021, Developer - mlpack ⊡   05/2021 – 08/2021
- Created MobileNetV1 and a versatile ResNet model builder, simplifying model construction.
- Integrated pretrained weights for immediate model usage, enhancing user experience.
- Contributed to mlpack repositories, including resnet module, MobileNet V1, and various fixes.
- Engaged in the mlpack PyTorch Weight Translator project, successfully porting ResNet and MobileNetV1 weights.
- Full report here ⊡

Mavoix Solutions, Deep Learning Engineer ⊡   05/2020 – 08/2020
- Created and fine-tuned text recognition and image classification models from scratch.
- Implemented model ensembles and splicing techniques to extract optimal model components, resulting in improved performance.
- Developed API endpoints using Flask for easy integration and accessibility.

PROJECTS

Models, Open Source Contributor ⊡
- Revamped project documentation in the mlpack organization's "models" repository, employing Doxygen and Sphinx to create user-friendly and comprehensive documentation.
- Established an end-to-end automated documentation pipeline utilizing Docker and Jenkins, resulting in the publication of documentation at https://models.mlpack.org/docs/ ⊡ .

Mlpack, Open Source contributor ⊡
- Developed MobileNetV1 model integration, incorporating depthwise separable convolutions for improved efficiency.
- Created a ResNet model builder capable of constructing ResNet architectures, including ResNet18, ResNet34, ResNet50, ResNet101, and ResNet152.
- Organized project components into the mlpack models repository and integrated depthwise separable convolutions as a layer within the mlpack repository's artificial neural network codebase.

Compute Server
- Developed a versatile Golang-based server orchestrating Docker applications, overseeing file operations, executing jobs, and facilitating bidirectional communication with the monolithic server.
- Streamlined workflows by automating instance-specific tasks, enhancing operational efficiency.
- handled seamless running of instances on any cloud
- Integral component of infrastructure, empowering seamless app hosting, file management, and job execution, contributing to overall system enhancement.

Cloud Data Server
- Designed and developed a Python-based server for private use, facilitating seamless integration of major cloud platforms (e.g., AWS, Azure, GCP) with extensibility for additional providers through class-based implementation.
- Empowered platform-wide data accessibility, streamlining file operations, centralizing logging, and facilitating billing management.
- Contributed to enhanced data mobility and efficiency across the platform through the private server's robust architecture.

SKILLS

Python, Golang, C++, GCP, AWS, Azure, Generative AI, Machine learning systems, Kubernetes, Git

COURSES

Machine Learning, Stanford University ⧉

Deep Learning Specialization, deeplearning.ai ⧉

Google Cloud Platform, Qwiklabs ⧉

Introduction to Machine Learning in Production, DeepLearning.AI ⧉

Machine Learning Data Lifecycle in Production, DeepLearning.AI ⧉

EDUCATION

Bachelor of Technology (B.Tech), Computer Science,   2019 – present
SRM Institute Of Science And Technology, Kattankulathur Main Campus ⧉   Chennai, India
  CGPA: 9.55/10

ORGANIZATIONS

Next tech lab, SRMIST, Member ⧉   present
- Next Tech is a multi-disciplinary lab founded by MIT alumni; Silver Winner of QS re imagine   Chennai, India
  education.
- Member of McCarthy lab for Artificial Intelligence that deals with research in the field of
  Computational Biology, Artificial Intelligence and Machine learning.

Association for Computing Machinery, SRMIST, Vice Chair ⧉   present
- Familiar with the duties and responsibilities of the Chairperson, and of the other elected   Chennai, India
  officers and committee chairpersons.
- Responsible for overseeing the activities and progress of the various committee and chapter
  programs.
- Conduct meetings and workshops hosting distinguished professors.

BLOG

https://medium.com/@kaushikaakash7539 ⧉
https://iq.opengenus.org/author/aakash/ ⧉

PUBLICATIONS

mlpack 4, JOSS - Journal of Open Source Software ⧉   01/02/2023
This paper overviews mlpack 4 written in c++, a significant upgrade over its predecessor. The
library has been significantly refactored and redesigned to facilitate an easier prototyping-to-
deployment pipeline, including bindings to other languages.