Haardik Dharma

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EDUCATION

New York University, Courant Institute of Mathematical Sciences, **New York, NY** **Expected Graduation:** May 2025
Master of Science, Computer Science
Relevant Coursework: Cloud and Machine Learning, Operating Systems, DevOps and Agile Methodologies, Realtime and Big Data Analytics, Deep Learning, Computer Vision, Natural Language Processing, Fundamental Algorithms.

Maharashtra Institute of Technology (MIT-WPU), Pune, India **Graduated:** June 2023
Bachelor of Technology (B.Tech), Computer Science and Engineering
Relevant Coursework: Object Oriented Programming, Data Structures and Algorithms, Networking, DBMS, Software Engineering and Project Management, Distributed Computing, Blockchain, AI and ML, Capstone on Quantum Computing.

TECHNICAL SKILLS

- **Languages / Frameworks:** Golang, Python, Java, Javascript, C, C++, PyTorch, TensorFlow
- **Tools / Services:** Kubernetes, Docker, Git, Github, CLI, REST APIs, gRPC, Microservices, Terraform
- **Databases / Platforms:** MySQL, PostgreSQL, Apache Kafka, Spark, Hadoop, MongoDB, AWS, GCP, Microsoft Azure

RELEVANT EXPERIENCE

Summer Intern - Civo **June 2024 - August 2024**
- Added a new service into the API - **Kubeflow as a Service (KFaaS)**, a serverless deployment environment with access to GPU-backed machine learning and AI tooling.
- Coded appropriate logic in the operators, wrote CLI commands to interact with Kubeflow clusters, and added test cases.
- The service is live on the platform - civo.com/kubeflow-as-a-service with **2000+** customers onboarded already and is expected to double the company's revenue by the end of 2024.

Backend Developer - Civo **January 2022 - August 2023**
- Developed and maintained Civo's internal API written in Go, which can handle **50000 RPM.**
- Built Kubernetes operators, open-source Go client, and IaaC providers in collaboration with the backend team.
- Integrated the CLI with existing backend systems to ensure seamless interaction with various services. Hold the position of second highest contributor to the project - github.com/civo/cli/graphs/contributors
- Implemented features in the API like **Civo Platform** - A fully managed PaaS solution backed by a Kubernetes cluster; **LoadBalancer as a Service (LBaaS)** - Maximizes the availability and performance of deployed apps and services, causing zero downtime; **Object Storage** - S3-compatible buckets which can manage unstructured data; **Database as a Service (DBaaS)** - Access to Civo Database service which handles database upgrades, backups, and security.
- Adding the above features to the platform resulted in a monthly consumer spending increase of **65%.**

Linux Foundation Mentee - CNCF - Kubernetes **September 2021 - November 2021**
- Implemented an open-source adapter that periodically generates or updates a Policy Report custom resource based on outputs received from KubeArmor (a cloud-native runtime security enforcement system).
- Investigated and documented various options and determined the pros and cons of the approaches based on factors like ease of use, extensibility, scalability, etc.
- The project is live on the Kubernetes Working Group Policy repository on GitHub with appropriate documentation and examples for the wider community use.

PROJECTS

Image Colorization using Conditional Generative Adversarial Network (cGAN) and Attention [GitHub repository]
- Developed an image colorization model to predict realistic colors for grayscale images using UNet architecture and Conditional GANs, achieving improved color fidelity and faster convergence by integrating attention mechanisms.
- Conducted extensive experimentation on the LSDIR dataset, comparing four different architectures, leading to significant advancements in reducing overfitting and enhancing image quality.

AI-based Agriculture Monitoring System
- Created a model to monitor fertile land by deploying various sensors to detect crop diseases and pests. The model gathered sensor data and transmitted it to an AI server using IoT. The model examined sensor data and used AI algorithms to identify the disease and its root cause.

TALKS

KubeCon + CloudNativeCon NA 2024
- Invited to deliver a talk on the topic **"Decentralized Federated Machine Learning: Empowering Edge Devices with Kubernetes" [link]** at CNCF's flagship conference scheduled to take place in Salt Lake City in November 2024 with expected attendance of **9000+** technologists from leading open source and cloud native communities.

LEADERSHIP EXPERIENCE

Lead - Google Developer Student Club (GDSC - MITWPU) **July 2021 - June 2022**
- Managed a team of 20+ members segregated into different departments ranging from technical, design and marketing, content creation, and event management.
- Organized six events and a workshop regarding open-source tools, cloud-native technologies, machine learning, and deep learning. Delivered a talk on "Basics of Git and GitHub" to demonstrate the working of version control systems.