SAILESH DWIVEDY

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EDUCATION

University of Colorado, Boulder — **Aug 2023 – May 2025**
Masters in Computer Science; GPA: 4.0 — *Boulder, Colorado*

Kalinga Institute of Industrial Technology — **May 2016 – May 2020**
Bachelors in Computer Science; GPA: 3.6 — *Odisha, India*

RESEARCH AND PROJECTS

Knowledge Distillation Project   **Advisor: Prof. Danna Gurari and PhD Nick Cooper** [2024]
Model Compression through Knowledge Distillation in Computer Vision   (<u>Submitted at CVPR 2025</u>)
- Developed a **novel layer selection strategy** for Feature Knowledge Distillation (FKD) in analyzing the functional roles of layers resulting in **80%** training efficiency and **15%** accuracy over SOTA methods. (Paper in review)
- Used datasets - CIFAR-10, CIFAR-100, Tiny ImageNet, and vision model architectures - VGG, ResNet, Transformers.

Slurred Speech (Dysarthria) Detection System
Detection of speech impairments (Torgo dataset) using Machine Learning.
- Built and deployed on **GCP** a model with **93% accuracy** using classical machine learning models and MFCC features.

Distributed DL Cloud Training Cost Prediction   **Advisor: Prof. Eric Keller** [2024]
GCP Model Training Cost Prediction based on resource usage.   (<u>Ongoing</u>)
- Designing a data-driven framework to **predict training costs** for distributed DL models on **GCP** using **Vertex AI.**
- **Collecting and curating data on key parameters**, including model hyperparameters, resource usage (CPU, GPU, memory, network), instance configurations, and training cost for regression model development.

PROFESSIONAL EXPERIENCE

University of Colorado, Boulder — **May 2024 – Dec 2024**
Research Intern, Image and Video Computing Lab — *Boulder, Colorado*
- Working with Prof. Danna Gurari and PhD Nick Cooper on **Model Compression** in Computer Vision.

Kalinga Institute of Industrial Technology — **Feb. 2023 – Aug.2023**
Research Associate — *Odisha, India*
- Worked with Prof. Suresh Satapathy on SMOTE, sampling, and Tomek Links for **imbalanced classification.**

Highradius Technologies Private Limited — **Sep. 2020 – Feb. 2023**
Data Science Team Lead — *Odisha, India*
- Built a NLP usecase of **Smart Email Composer** using **Event Extraction** and **NER** combined with **Generative AI** to extract key entities and events from emails, enabling tailored responses and enhancing account workflows.
- Owned **end-to-end** deployment of the AI solution, **reducing response time** by **40%**, delivering business impact.
- Developed **imbalance classification** predictive models for Deduction Validity Predictor for Fortune 500 clients with **90% accuracy**, **cutting research time** by **25%** and **boosting dollar amount recovery** by **12%**.
- Build ML models for **regression** use case of Payment Date Prediction, cutting Days Sales Outstanding by 30%.
- **Optimized** pipeline from solution design, training, evaluation, validation to monitoring leading to **33%** faster delivery.
- **Led team of 10** on predictive analytics projects achieving business objectives, through cross-functional collaboration.
- Experience working across business domains and explaining analytical results to non-technical end users.

TECHNICAL SKILLS

Programming and Libraries: Python, PyTorch, SQL, Spark, Numpy, Pandas
Data Visualization: Tableau, Data Analytics, Seaborn, Plotly, Matplotlib
Data Science: Mathematics, Statistics, Classification, Regression, Bagging, Boosting, Model Evaluation
Machine Learning: SkLearn, Random Forest, LGBM, Neural Networks, Early Stopping, Hyperparameter Tuning
NLP: Transformers, NER, Sentiment Analysis, Token Classification, Sequence Classification
Computer Vision: Stable Diffusion, YOLO, CNN, Vision Transformers, ResNet, Knowledge Distillation
LLM: Fine Tuning, LoRA, QLoRA, RAG, Hugging Face, Llama, Vector DBs, Prompt Engineering
DevOps and Cloud Computing: Docker, Kubernetes, GCP, Vertex AI, MS Azure, AWS

AWARDS AND CERTIFICATION

- **Generative AI with Large Language Models**, Deep Learning.AI and Amazon Web Services (Sep 2024)
- **Oracle Cloud Infrastructure 2024 Generative AI Certified Professional**, Oracle, (Aug 2024)
- **Awarded as Best Performer of the Team for 2 quarters**, Highradius Technologies (May 2020)
- **Winner at Smart India Hackathon 2019**, Government of India (Mar 2019)