ASHIN SHANLY

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PROFESSIONAL SUMMARY

Software Engineer with a Master's in Technology (Computer Science and Engineering), proficient in cloud platforms (OCI, GCP), machine learning, and data engineering, with a focus on creating scalable, high-performance solutions. Adept at leveraging technical expertise and leadership to enhance business decision-making, drive system efficiency, and innovate in cloud-based architectures. Seeking opportunities to apply my skills and contribute to transformative projects in cutting-edge technology environments.

PROFESSIONAL EXPERIENCE

Member of Technical Staff (IC2) - Compute Data Engineering 2022 - Present
Oracle India (OCI) *Bengaluru, India*

- Developed and optimized **petabyte-scale ETL pipelines** using Apache Spark and OCI services, reducing data processing time by 20% and improving cost efficiency by 15%. Led the development of **Spark pipelines** in OCI for ingesting and aggregating real-time global customer usage data. Designed a scalable, fault-tolerant architecture processing **billions of records daily**, providing actionable insights through real-time reporting.
- Developed an **Instance and Rack Decommissioning Dashboard** to increase throughput for decommissioning bare metal and virtual machine instances. Enhanced visibility across several dimensions including rack, host, and instance level views, optimizing data center resource allocation.
- **Implemented Data Archival and Purging Frameworks:** Led the design and implementation of robust data archival and purging systems, automating the identification of cold and inactive data. Migrated historical data to cost-effective, long-term storage while purging obsolete records in compliance with retention policies. Achieved a **25% reduction in long-term storage costs** and enhanced overall database performance by optimizing active data sets.
- **Automated Cloud-Native Data Pipelines:** Led initiatives to automate cloud-native ETL and data processing pipelines, reducing manual intervention by integrating CI/CD practices, automated testing, and monitoring. This automation led to a **30% reduction in operational overhead** and increased system reliability by streamlining end-to-end data processing workflow.

Machine Vision Research Scientist Intern May 2021 - Jul 2021
TCS Research and Innovation *Bengaluru, India*

- **Pioneered advanced research in tree segmentation** by leveraging airborne and spaceborne LiDAR technology, driving a notable increase in segmentation accuracy and advancing precision in geospatial analysis for forestry applications.
- **Engineered an innovative tree segmentation model** utilizing a hybrid machine learning and signal processing framework, achieving an 18% boost in model accuracy, thereby setting a new benchmark for high-precision environmental monitoring systems.
- **Implemented cutting-edge data fusion techniques**, seamlessly integrating geospatial point cloud data with hyperspectral imagery to significantly enhance classification models, leading to more refined and actionable environmental insights.

EDUCATION

Masters in Computer Science and Engineering 2020 - 2022
Indian Institute of Technology Gandhinagar (IIT GN)
Awarded Director's Silver Medal for Academic Excellence (9.0/10 CGPA)

Bachelors in Computer Science and Engineering 2016 - 2020
Government Engineering College Thrissur
Dean's List for Academic Excellence (9.11/10 CGPA)

TECHNICAL SKILLS

- **Programming Languages and Frameworks:** Python, Java, C/C++, SQL, JavaScript, Django
- **Cloud Platforms:** Oracle Cloud Infrastructure (OCI), Google Cloud Platform (GCP)
- **Big Data Technologies:** Apache Spark, PySpark, Hadoop
- **Machine Learning Frameworks:** TensorFlow, PyTorch
- **DevOps:** CI/CD, Terraform, Git, Docker, Kubernetes
- **Tools:** Android Studio, XAMPP

SELECTED PROJECTS AND PUBLICATIONS

- **Accelerated Implicit Neural Representations** Engineered an advanced **encoder-decoder multiscale block partitioning network architecture** to represent N-dimensional signals via implicit neural representations. Achieved significant improvements in training and inference speeds, **surpassing state-of-the-art models by 25%** in computational efficiency. This research tackles complex signal representation challenges, optimizing memory usage and scalability for high-dimensional data. *(Research Paper in Progress)*
- **Semantic-Enhanced Image Captioning System with Siamese-GCN** Designed an innovative image captioning system using **Siamese Graph Convolutional Networks (S-GCN)** integrated with a non-parametric **Kernel Activation Function (KAF)** and an LSTM-attention mechanism. The system enhanced semantic understanding of image data, enabling more accurate and context-aware captions. The work was recognized and **published at the 9th ACM IKDD CODS and 27th COMAD Conference**, contributing new insights into the field of image-to-text transformation. [Publication]
- **Neural Language Model for Reverse Dictionary** Developed a novel **neural language model** to predict target words based on informal descriptions using a combination of **CBOW model**, **attention word embedding**, and a **POS tagging channel**. The model efficiently captured sub-word information, yielding more accurate predictions. This work was presented at the **8th ACM IKDD CODS and 26th COMAD Conference**, showcasing advancements in natural language understanding and word prediction mechanisms. [Publication]

CERTIFICATIONS

- Oracle Cloud Infrastructure Architect Associate - Oracle
- Google Cloud Professional Data Engineer - Google

AWARDS AND ACHIEVEMENTS

- Awarded **Director's Silver Medal** for outstanding academic performance, IIT Gandhinagar
- Published **2 peer-reviewed papers** in top-tier machine learning conferences (ACM IKDD CODS, COMAD)
- **ICPC** Regional Finalist
- **Runner-up** in the esteemed All Kerala Innovative Idea Grant Contest.
- Three-time consecutive recipient of the prestigious **Kalaprathibha award** in Youth-Arts.