

ARUN GOVARDHAN RAJ OBULI

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PROFESSIONAL SUMMARY

Machine Learning practitioner with expertise in deep learning, computer vision, NLP, and multimodal AI. Proven ability to build high-performance models and robust feature-engineering pipelines, working end-to-end across data processing, training, evaluation, and optimization. Skilled in leveraging big-data tools and strong engineering discipline to solve complex, unstructured data challenges and deliver measurable impact.

EDUCATION

MASTER'S DEGREE | Big Data Science | Queen Mary University of London 2024 – 2025
BACHELOR'S DEGREE | Electronics and Communication Engineering | RV College of Engineering 2018 – 2022

PROFESSIONAL EXPERIENCE

ASSOCIATE 1- ASSET MANAGEMENT SERVICES | State Street Corporation | Bangalore, KA Mar 2023 – Aug 2024

- Managed custody, settlement, and cash operations for global clients including BlackRock, JPMorgan & Goldman Sachs.
- Analyzed trade execution data and failure patterns across DTC/FED/Euroclear to reduce fail rates by **30%**, using root-cause metrics to drive process enhancements.
- Performed cash forecasting, funding oversight, FX and intraday exposure monitoring, and data-driven root-cause analysis of cash/position/pricing breaks to enhance reconciliation accuracy and operational controls.
- Automated reconciliation checks and optimized workflows through data-driven initiatives, improving operational efficiency and client SLA adherence by **40%**.

PROJECTS

MULTIMODAL FILM SUMMARIZATION & REEL GENERATION

[GitHub](#)

- Built a 5-stage pipeline converting feature films into 2-3-min narrated reels - Whisper ASR, LLM 20-sentence plot summarization, and visual rewrite. Aligned sentences to frames with CLIP, then produced narration and the final cut (Edge-TTS, MoviePy).
- Achieved **80%** context coverage and **70%** sentence to frame alignment. Pipeline runtime is 45-50 min per 60-min film.

CIFAR-10 CLASSIFICATION - IMPROVED CNN

[GitHub](#)

- Developed a baseline 2-block attention-weighted CNN reaching **67%** test accuracy; redesigned to 4x multi-branch 3x3/5x5 blocks with pooling, GAP/Dropout, and stronger training with RandAugment, Cutout, Mixup, label smoothing, OneCycleLR/Adam.
- Achieved **94.45%** test accuracy in 100 epochs with smoother convergence and reduced overfit.

DECEPTION DETECTION FROM AUDIO

[GitHub](#)

- Engineered a full ML pipeline: audio segmentation, feature extraction (MFCCs, pitch, ZCR, spectral features), PCA-based dimensionality reduction.
- Trained SVM-RBF with GroupShuffleSplit to prevent speaker leakage; achieved **75.3%** test accuracy with **0.85** recall on deceptive class, demonstrating practical classification on noisy real-world audio with strong minority-class performance.

BRAIN TUMOR DETECTION & SEGMENTATION

- Conducted comparative evaluation of ResNet classifier vs U-Net architecture on MRI data; assessed training stability and class imbalance effects.
- U-Net achieved **87.4%** accuracy with superior segmentation quality and lower validation loss; documented key failure modes for clinical robustness.

TECHNICAL SKILLS

- Programming & Data:** Python, SQL, pandas, NumPy, PostgreSQL
- ML & Deep Learning:** PyTorch, TensorFlow (basics), scikit-learn; CNNs, SVMs, PCA, feature engineering, model evaluation, PyAgrum
- NLP & Multimodal:** Hugging Face Transformers, Whisper, CLIP, prompt engineering
- Big Data & Distributed:** PySpark, Hadoop
- Visualization & CV:** Matplotlib, Seaborn, OpenCV, MoviePy, NetworkX, Gephi