Sharvari Deshmukh

+1 (508) 315-7685 sharvarisd18@gmail.com shdeshmukh@ucsd.edu linkedin.com/in/186shades

Master's student actively looking for full-time opportunities starting Mar 2025

Education

University of California San Diego, USA **Sep 2023 – Mar 2025**

M.S. in Electrical & Computer Engineering (Signal & Image Processing specialization) *GPA: 3.63/4*

Coursework: ML for Physical applications, GPU Programming, Medical Imaging, Intro to Visual Learning, Digital Image Processing, Wavelets and Filterbanks, Statistical Learning, Linear Algebra, Digital Signal Processing, Computer Vision

Birla Institute of Technology and Science, Pilani, India **Aug 2013 – Dec 2017**

B.E. (Hons.) in Electronics & Instrumentation Engineering *GPA: 3.62/4*

Technical Skills

Languages & Frameworks: C/C++, Python, PyTorch, TensorFlow, CUDA, MATLAB, Golang, Rust, Java, JavaScript
Tools & Competencies: AWS (RDS, SQS, S3, EKS), MySQL, MongoDB, Redis, Apache Kafka, Git, Docker, Kubernetes, Linux, Computer Vision, Machine Learning, Data Structures & Algorithms, Software Design Patterns

Projects

Dust-Fragment classification | *UCSD ARCLab*

- Integrating **segmentation models with optical flow** for moving object detection and classification in ureteroscopy videos, enabling precise identification of kidney stones, fragments, and dust to automate laser settings in lithotripsy.

Histopathology image classification for cancer diagnosis

- Conducted comparative analysis between **CNNs & Vision Transformers**, fine-tuned through transfer learning & data augmentation; achieved **99% accuracy** on LC25000 dataset using **API-Net and Swin-Transformers**.

Diffusion-based image restoration: A zero-shot approach

- Implemented a zero-shot image inpainting technique based on the **Denoising Diffusion Null-Space Model**, achieving benchmark results for image reconstruction on occluded surgical images by training on IEEE Dreaming dataset.

Real-time multimodal device state classification for industrial devices

- Built a multimodal deep learning model for real-time device state classification, achieving **98.2% accuracy** on Mudestra dataset and a **92.5% model size reduction** for efficient edge deployment.

Experience

Marqeta | *Software Engineer Intern* | *Global Risk Products* **Oakland, CA | Jun 2024 – Sep 2024**

- Boosted observability and traceability of high-traffic 3DS services in payment security, **reducing root-cause analysis time by 80%** for high-severity issues through structured logging and custom metrics integration with Datadog.

Grab | *Software Engineer* | *Digibank, Compliance* **Bangalore, India | Mar 2022 – Jun 2023**

- Designed and implemented an instant KYC pipeline for Singapore ID verification, utilizing automated text extraction and face matching to cut onboarding time from **3 days to under 2 minutes.**
- Engineered a modular workflow engine with a **Golang-based state machine** to streamline multi-step data flow and integrate seamlessly with Indonesian credit bureaus and telco providers for the Loan Origination System.
- Architected a **scheduler library in Golang** to enable event-driven automation across multiple compliance use cases.

Paytm Money | *Software Engineer* | *Payments* **Bangalore, India | Jan 2021 – Oct 2021**

- Developed numerous distributed & scalable features within core payments service, effectively managing **50,000 transactions per day** across diverse financial products including Mutual Funds, Equities & EdTech.
- Enhanced fault tolerance of critical systems by implementing the circuit breaker pattern with Hystrix, achieving **99.9% availability.**
- Upgraded Mutual Funds end-to-end payment flow, **reducing API latencies by 10x** with DB query enhancements.

Goldman Sachs | *Technology Analyst* | *Securities* **Bangalore, India | May 2020 – Jul 2020**

- Part of the Systematic Market Making - Execution Services team in FICC E-Trading division which worked with electronic market making and algorithmic execution to ensure optimal market access for clients.

Citibank | *Technology Analyst* | *Equity Trading* **Pune, India | Aug 2018 – May 2020**

- Built low latency Java applications using (openHFT) Chronicle based framework achieving **microsecond latency** for in-house High Frequency Trading applications connecting to Hong Kong Futures Exchange.
- Developed a dynamic PDF generator application leveraging **Spring Boot & Microservices** architecture to automate client onboarding processes.
- Improved development process by introducing **agile & CI-CD** practices.