Harshit Sharma

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Education

Arizona State University   **August 2023 – May 2025**
Masters in Computer Science; GPA: 4.0/4.0   Tempe, USA
Indus University   **August 2015 – June 2019**
Bachelor of Technology in Computer Engineering; GPA: 3.8/4.0   Ahmedabad, India
Relevant Coursework: Data Structures and Algorithms, Operating Systems, Foundations of Algorithms, Cloud Computing, Software Security, Statistical Machine Learning, Deep learning, Gen AI, Data Mining

Experience

Senior Software Engineer, Perfios, Mumbai, India   **April 2022 – July 2023**
- Led a cross-functional team to architect a scalable call distribution system with **AWS Lambda, SQS, EC2, and Redis**:
  - **Ingestion Service (Lambda):** Streamlined data ingestion into **MongoDB** through **SQS** integration.
  - **Call Orchestrator (EC2):** Engineered business logic for call mapping, improving ETA calculation speed by **60%**.
  - **Event Distributor (Lambda):** Implemented live call status updates via **Websockets**, with **Redis** caching lowering database load by **70%**.
- Engineered a **Python multithreading tool** with decorator patterns, enhancing Lambda execution speed by **40%** and cutting AWS costs by **$2K/month**.
- Collaborated with client teams to deliver **15+ RESTful APIs** through **API Gateway** and **AWS KMS**, decreasing onboarding time by **50%**.

Software Engineer, Perfios, Mumbai, India   **June 2019 – March 2022**
- Spearheaded API migration to **Azure Functions**, achieving **99.9% uptime** through effective team coordination.
- Architected a responsive authentication system leveraging **Redis** and **MongoDB**, delivering sub-**100ms** response times while securing **50K+ daily API calls**.

Software Engineer, Tata Consultancy Services, Bangalore, India   **July 2017 – May 2019**
- Collaborated with UI/UX teams to maintain applications with **Spring Boot (Java)** and **VueJs**.
- Led the creation of an intuitive form builder with **Vue.js and Spring Boot**, cutting development cycles by **60%** through effective team collaboration.
- Partnered with senior developers to enhance legacy APIs, improving complexity from $O(n^2)$ **to** $O(n \log n)$ and boosting performance by **45%**.

Projects

Cloud-Based Elastic Face Recognition System
- Architected a serverless system leveraging **AWS Lambda** for IoT feeds and **EC2 Auto Scaling** for detection, achieving **98%** accuracy.
- Decreased storage costs by **30%** through **S3 Lifecycle Policies** while enhancing video processing with **OpenCV**.

Fake Review Detection System
- Built a hybrid **Random Forest** model integrating behavioral patterns and **TF-IDF features**, achieving **95%** accuracy on **500K+ reviews**.
- Engineered efficient model deployment with **Python** and **Scikit-learn** for large-scale data processing.

Disney-Style Video Generation with CogVideoX-2b
- Fine-tuned `THUDM/CogVideoX-2b` using **Distributed Data Parallel (DDP)** on **8x NVIDIA A100 GPUs**, improving stylistic coherence by **45%**.
- Preprocessed **50K+ frames** from the **Steamboat Willie** dataset with **OpenCV** and optimized training via mixed-precision **FP16**.

Skills

- **Programming Languages**: Python, Java, C/C++, JavaScript, TypeScript, Vue.js
- **Cloud & Infrastructure**: AWS Cloud (Lambda, EC2), Storage (S3), Integration (SQS, API Gateway), OpenFaaS, Azure Functions, Websockets
- **DevOps & Tools**: Docker, Kubernetes, CI/CD, Terraform, Git, REST APIs
- **AI/ML & Data**: PyTorch, OpenCV, Scikit-learn, TF-IDF, Random Forest, Distributed Training (DDP)
- **Databases & Caching**: MongoDB, Redis, DynamoDB, PostgreSQL
- **Framework & Libraries**: Spring Boot, Vue.js, React, OpenCV, Mixed-Precision Training
- **System Design**: Distributed Systems, Event-Driven Architecture, Microservices, Serverless Architecture, Message Queuing, Real-time Processing, Caching Strategies, API Design, High Availability Systems, Data Streaming