Akshat Arvind

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Software Engineer

Analytical professional with hands-on experience in software design and development. Skilled in managing full life cycle of software development processes, including requirement engineering, design, coding, testing, debugging, and maintenance. Adept at creating architecture concepts for IT systems and leading development and implementation of flexible solutions that support multiple UI and functional changes. Proficient in Applied Algorithms, Artificial Intelligence, Cloud computing, Big Data, Advanced Database Concepts, Applied Distributed Systems, and Machine learning techniques, such as regularization, feature engineering, principal component analysis, and model evaluation.

Areas of Expertise:

- Software & Data Engineering
- Business Applications Development
- Troubleshooting & Issue Resolution
- Database Management
- Software Development Lifecycle
- Data Analysis

Technical Proficiencies

Skills:	Backend Development, Cloud Computing, Microservice Architecture, Machine Learning
Languages:	Python, Java, R, JavaScript, SQL
Technologies:	Flask, MongoDB, Kafka, Node.js, PostgreSQL, Kubernetes, Docker
Tools/Frameworks/APIs:	Git, Jenkins, PyTorch, PySpark

Education

Master of Science in Data Science | Indiana University, Bloomington, IN, 2022 | GPA: 3.8

Bachelor of Technology in Electronics and Communication Engineering | APJ Abdul Kalam Technical University, India, 2017

Key Projects

Microservices-Based Weather Forecast System | Cloud-Native Technologies 2022

- Built highly available/fault-tolerant cloud native weather forecast system using NEXRAD/NASA Marshall Space Center data.
- Used **VueJS** for frontend and **Python, Java, Node.js** for Microservices communicating with **gRPC and Kafka**.
- Containerized each microservice using **Docker** and deployed the system on **Kubernetes** cluster for container orchestration.

Generating Synthetic Functional Tissue Units using GANs | Python, PyTorch, Deep Learning 2021

- Trained **GAN model** to generate **1000+** synthetic FTU images to augment training data for FTU detection algorithms.
- Optimized model training time by **60%** through the execution of parallel processing using multiple GPUs.
- Used evaluation metrics, such as **SSIM (score: 0.87)** and **FID (score: 4.25)** to examine GAN results.
- https://github.com/Akshace/ccf-research-gans

Inverted Index using Google Cloud Functions | Python, Google Cloud Platform, Cloud functions, MapReduce 2021

- Computed cumulative word count for **30+ documents** by creating inverted index with **MapReduce principle.**
- Planned and executed master, mapper, and reducer phase using 3 cloud functions and pub/sub communication.
- Processed multiple documents from Project Gutenberg simultaneously and generated their word count in **<10 seconds**.

Career Experience

Infosys, Bangalore, India 2018 – 2020

Software Engineer

Maximized up-time for customer network devices by designing and managing client network monitoring solutions.

- Secured contracts with customers with **$150K** value by modifying codebase to incorporate **ICG/WebVPN** monitoring.
- Saved **60%** time spent on logs analysis by promoting use of **PySpark** to wrangle network log data for faster analysis.
- Improved report generation time by **30%** by automating tasks using **Python/Shell scripts** and scheduling cron jobs.

FarEye, Noida, India 2018

Technical Engineer Intern

- Wrote **20+ custom SQL queries** & generated ad-hoc data reports to streamline redundant tasks.
- Added new contributions to the incident management knowledge portal, **reducing SLA breaches** in the running quarter.