

# SANATAN SHRIVASTAVA

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## SKILLS

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**Programming Languages:** Golang, Java, Python, C++, SQL  
**Backend & Systems:** gRPC, REST, Protocol Buffers, Kafka, Redis, NGINX  
**Cloud & Infrastructure:** Kubernetes (K8s), Docker, AWS, GCP, Terraform, Jenkins, Ansible  
**Databases:** PostgreSQL, MySQL, MongoDB, DynamoDB  
**DevOps & Monitoring:** CI/CD, Prometheus, Grafana, Git  
**System Design:** Distributed Systems, Microservices, Event-Driven Architecture, Observability, Security  
**AI/ML Infrastructure:** DeepSpeed, vLLM, Hugging Face, Transformers, TensorFlow, PyTorch  
**Methodologies:** Agile, DevOps, Infrastructure as Code (IaC), Test Automation

## EXPERIENCE

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**Cloud Software Development Engineer** Jun. 2024 - Present  
**Intel Corporation** Dallas, TX

- Developed a Kubernetes-native service to validate Intel and NVIDIA GPU clusters using Ansible, Large Language Models (LLMs), and LLM libraries (DeepSpeed, vLLM, Accelerate), improving fault triage efficiency by 80%
- Crafted a CI/CD pipeline using Jenkins to deploy firmware across 8 regions and 15+ hardware platforms, leveraging Git, AWS S3, AWS CloudFront, and Nginx caching to ensure 100% uptime and save \$25,000 annually
- Redesigned IP allocation microservice to enable concurrent execution feature using goroutines and serializable database transactions, reducing compute provisioning delays by 70% while ensuring consistent IP allocation
- Led development of a Docker image repository to benchmark AI workloads on bare-metal GPUs, enabling over 100 monthly executions and reducing initialization time by 30%, accelerating performance testing cycles

**Software Development Engineer, Intern** May 2023 - Apr. 2024  
**Intel Corporation** Dallas, TX

- Designed and implemented tagging of CPU/GPU servers to enable features like automated disk partitioning and quota enforcement, streamlining hardware enrollment and reducing onboarding time by 50%
- Refactored monolithic IP lifecycle into a Kubernetes microservice, streamlining server IP assignment and DDI (DHCP, DNS, IPAM) state management, using throttling to reduce API load by 70%
- Developed a Python tool to auto-generate firmware-hardware compatibility matrices, eliminating 80% of manual audits and providing key insights to product management
- Collaborated with Intel Cloud Services' Developer Productivity team to improve product documentation, accelerating developer onboarding by 30% and increasing internal product engagement

**Software Development Engineer, Intern** Jan. 2022 - May 2022  
**Samsung** Gurugram, India

- Developed Spring Boot microservices with Kafka to optimize downstream software updates, reducing latency by 20% and improving throughput by 15% through consumer parallelism
- Contributed to automating release testing and deployments across 8 services by implementing a topological-sort-based deployment tool, resulting in 78% reduction in release time
- Collaborated with Service Reliability Engineering (SRE) team to automate service health checks for 5 internal microservices using core Java and Cron Jobs, minimizing manual Quality Assurance (QA) effort by 40%

## EDUCATION

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**Master of Science (MS), Computer Science** Aug. 2022 - May 2024  
The University of Texas at Dallas (GPA: 3.7/4.0) Richardson, TX

**Bachelor of Technology (B.Tech), Computer Science and Engineering** Aug. 2018 - May 2022  
Indian Institute of Information Technology, Kota (GPA: 8.7/10.0) Rajasthan, India

## PUBLICATIONS

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- "Distributed Ledger Technology (DLT) and Byzantine Fault Tolerance in Blockchain" - LNNS, vol 425. Springer (2022)
- "Dysgraphia Detection Using Machine Learning-Based Techniques" - ICE-TEAS 2023

## LEADERSHIP & ACHIEVEMENTS

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- Mentored and onboarded 5 new hires on internal services and developer tools
- Co-founded a peer mentoring initiative at UTD, guiding students on career prep and internships in software engineering