

# MUDITA SANJIVE

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## PROFESSIONAL SUMMARY

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Software Development Engineer II with 3+ years at Microsoft building cloud-native Kubernetes infrastructure for AKS Edge Essentials, combined with hands-on experience shipping applied AI tooling into production operations. Track record of designing and deploying an AI agent adopted by on-call engineers to accelerate incident triage, building cross-team infrastructure tooling used by 3+ product teams, and driving a 67% CI/CD pipeline runtime reduction. Combines deep distributed systems expertise with a strong track record of cross-team collaboration and direct, outcome-driven delivery.

## TECHNICAL SKILLS

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**Languages:** Go, C#, Python, Shell Script, Java, C++, JavaScript (ES6), SQL

**Cloud & Infra:** Kubernetes (AKS, K3s, K8s), Azure, Container Networking, CNI Plugins, Docker, Helm, VHD Imaging

**Systems:** Distributed Systems, Edge Computing, High Availability, Cluster Management, Microservices, AI Agents

**CI/CD & Tools:** Azure DevOps, GitHub Actions, Pipeline Optimization, Ansible, Django, .NET, MongoDB, PostgreSQL

## WORK EXPERIENCE

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### Microsoft Corporation — Software Development Engineer II | AKS Edge Essentials

*Aug 2022 – Present*

- Designed and shipped an AI agent, built on existing internal tooling, that automated incident-ticket (IcM) triage for on-call engineers — generating structured summaries and root-cause analysis; iterated on output format based on responder feedback, driving team adoption and measurably reducing MTTR.
- Gathered requirements from 3+ product teams with differing edge hardware constraints and built a Subject Matter Expert (SME) toolchain to generate Windows VHD images for light-edge and heavy-edge platforms, enabling Windows worker node provisioning on Kubernetes without fragmenting the codebase — adopted across multiple product teams.
- Designed and maintained Kubernetes cluster orchestration software for lightweight and heavy edge devices, enabling enterprise-grade containerized workload deployments at the edge.
- Reduced CI/CD pipeline runtime from 2.5 hours to 45 minutes (67% improvement) by profiling bottlenecks and restructuring pipeline stages, accelerating team release velocity.
- Engineered high-availability designs for containerized workloads on edge devices, spanning container networking management, node lifecycle, and fault-tolerant workload scheduling.
- Integrated open-source components (CNI plugins, container runtimes) to expand cluster configurability; rebuilt selected images to enforce Microsoft Security standards and ensure full compliance across the product.
- Led multiple Security and Threat Model reviews in collaboration with the security team, proactively identifying and resolving vulnerabilities at the earliest stages of the development lifecycle.
- Authored the team on-call developer playbook with runbooks and escalation protocols that measurably reduced mean time to resolution (MTTR); authored technical documentation that reduced onboarding time for new engineers.
- Expanded test infrastructure with scenario-based suites for earlier defect detection across a growing matrix of OS SKUs.

### Tesla, Inc. — Software Engineer / Associate Software Engineer

*Apr 2021 – Aug 2022*

- Designed and maintained high-throughput RESTful APIs for Tesla's Payments and Servicing platform; delivered scalable, modular backend components and drove code quality through active code reviews.
- Coordinated regression testing and lower-environment deployments; provided on-call production support with rapid incident diagnosis to maintain uninterrupted service availability.
- Re-authored a significant portion of the codebase applying Object-Oriented Programming principles to reduce, reuse, and optimize code flow, resulting in approximately 40% reduction in overall repository volume.

## TECHNICAL PROJECTS

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### Simple Dynamo — Distributed Key-Value Store — Java · Distributed Systems | [github.com/MSanjive/Simple-Dynamo](https://github.com/MSanjive/Simple-Dynamo)

*May 2020*

- Implemented simplified Amazon Dynamo on 5 AVDs with linearizable storage, Quorum replication, and FIFO-Total ordering for concurrent query/insert/delete operations.

### PPO & TRPO-POP3D — Reinforcement Learning — Python · OpenAI Gym | [github.com/MSanjive/TRPO-and-POP3D](https://github.com/MSanjive/TRPO-and-POP3D)

*Dec 2019*

- Implemented PPO and a custom TRPO variant with Penalized Point Probability Distance; trained agents on LunarLander-v2, CartPole-v0, and SuperMarioBros-v0 with faster convergence than baseline.

## EDUCATION

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**University at Buffalo (SUNY)** — M.S. Computer Science *Aug 2019 – Feb 2021*

**Acharya Narendra Dev College, Univ. of Delhi** — B.S. Computer Science *Jul 2016 – May 2019*