

GAURAV KUMAR

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Education

MAY 2019	B. Tech. MECHANICAL ENGINEERING IIT Kanpur	7.6/10.0
APRIL 2015	Class XII (CBSE) SECONDARY DELHI PUBLIC SCHOOL, GAYA	94.8 %

Work Experience

Senior Software Engineer at Fortanix Inc.

June '19-Ongoing

• ArmetAI Team

- * Contributed to the design and development of a confidential Retrieval-Augmented Generation (RAG) pipeline.
- * Implemented core backend services and integrated all microservices.
- * Designed and implemented attestation mechanisms for a new AMD Confidential VM platform with GPU support, enhancing security and verification processes.
- * Architected and implemented security hardening for the Qdrant vector database.

• Confidential Computing Manager (CCM) Team

- * Contributed to the design and implementation of a confidential data clean room.
- * Designed and implemented the Multi-Party Support feature, enabling collaborative workflow creation and execution across multiple accounts.
- * Designed and developed a microservice for workflow monitoring, enabling efficient tracking and management of workflows.
- * Added Group support in CCM.
- * Contributed to integration with Azure Container Instance.
- * Played a key role in launching the CCM SaaS product, a revolutionary platform for confidential computing (<https://ccm.fortanix.com>).
- * Architected and implemented core backend functionalities, including the development of initial REST APIs, metering and audit-logging microservices.
- * Developed advanced features such as DCAP attestation support, multiple container registry configuration per account, Node Agent packaging, and Operator for CCM Node Agent.
- * Integrated CCM with IAM microservice.

• Data Security Manager

- * Designed and developed a Kubernetes plugin to encrypt secrets and ConfigMaps stored in etcd using DSM.
- * Implemented a plugin to securely inject secrets directly into Kubernetes workloads.

• Datashield Product Ownership

- * Managed the Datashield product, an earlier version of CCM with on-premise deployment and limited functionalities
- * Oversaw all Datashield releases and led the integration of support for IKS versions 1.16, 1.18, and 1.19, OpenShift versions 3 and 4, and Ubuntu 18.04.

- Actively engaged in customer-facing issues, proof-of-concepts (POCs), mentoring, software engineering, and DevOps interviews.

- Collaborated closely with Frontend, QA and UX teams to ensure seamless integration and user experience.

Technical Skills

Programming Skills:	Rust, Go, C, C++, Python
OS:	Ubuntu, Redhat/Centos Linux
Container Management:	Docker, Kubernetes, OpenShift, Helm, Operator, Docker Compose
Cloud:	Azure, Aws, IBM Cloud
Database:	Cassandra, Cockroachdb
Debugging:	gdb, strace
Automation/Build:	Jenkins