

Kush Bhagat

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Experience

Databricks | Software Engineer II – Workload Platform Team

2023 – Pres

- Architected a standardized centralization platform that mirrored and redacted 100+ **MySQL** and **TiDB** databases across 60+ regions, unlocking **\$400k** in savings, and improving engineering triage time from days to hours by developing a multi-cloud **CDC** ingestion pipeline using **Spark streaming**
- Developed core components of the Workload Automation Platform, enabling secure, multi-tenant deployments of Databricks jobs across AWS, Azure, and GCP by providing a unified interface for workload definition, secret management, and access control
- Automated provisioning and deployment of Databricks resources, enabling users to create **>1,500** resources across all clouds and regions, by building Python integrations within the Resource Management platform
- Designed and developed a data lineage platform in Python, that provided downstream lineage of tables, dashboards, and SQL queries, used in metastore migration for over **6,000** employees
- Eliminated use of long-lived credentials by migrating **1,000+** jobs to User Delegated SAS tokens, by developing an end-to-end flow that minted, synced, deployed, and retrieved tokens in Scala services
- Architected a metrics integration library that improved write availability to 99.5%, which was adopted by 700+ Spark jobs, by abstracting complex monitoring APIs into an intuitive and durable interface

Amazon Web Services (AWS) | Software Development Engineering Intern – Step Functions

2022

- Reduced downtime for customer usage of Step Functions' service integrations by 95% during region build by engineering a solution that will allow customers to call all **10,000+ API** actions regardless of service status
- Lead the infrastructure development for a cell-based architecture service by creating pipelines to deploy SQS Queues, DynamoDB tables, and EC2 Auto-scaling groups through CloudFormation templates

NVIDIA | Software Engineering Intern – Hardware Infra Team

2022

- Automated crucial data checks for 30+ production services using Elasticsearch watchers to trigger and resolve detailed PagerDuty alerts based on performance outages
- Developed a NIS microservice to enable critical user and group data to be queried within company network

Huawei | Software Engineering Intern – Compiler Team

2021

- Developed GPU offloading capabilities in **C++**, improving runtime of Fortran target regions by **96%**
- Enhanced **Flang's** (Fortran compiler) multi-threading and concurrent capabilities by developing support for **OpenMP** combined and nested parallel constructs

Projects

Connect 4 AI | Javascript

📁/Connect4Web

- Created a search tree using a depth-limited minimax algorithm to parse through 16,800+ moves every turn
- Optimized search by 40%, by using transposition tables and alpha-beta pruning

Skills

Languages: Python, SQL, C++, Scala, TypeScript, Java, C#, C, Bash, HTML/CSS

Technologies: Spark, Node.js, Angular, Kafka, Kubernetes, Docker, AWS, Django, TensorFlow, React, Git

Education

University of Waterloo | Honours Bachelor of Computer Science

2018 - 2023

- **3.9/4.0 GPA** (91.0% Cumulative GPA); 5x Term Dean's Honours List; President's Gold Scholarship (\$20,000)