Ahnaf Khan

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EXPERIENCE

Senior Software Engineer (Capital One | *McLean, VA*)   **Feb 2022 – Present**
- Building robust, scalable applications and tools from the ground up for globally distributed clients and end users
- Optimized internal data processing and ETL pipelines via development of Apache Hadoop-based tool for secure and efficient large batch-data processing via Spark jobs on AWS EMR, serving over ~10,000 internal users
- Implemented custom Hadoop file system with built-in caching within S3-client tool, drastically reducing redundant API requests by 99% and improving data processing performance
- Spearheaded development a full-stack React web app for Scala backend service, reducing technical dependency issues by 70% for all data scientists and machine learning (ML) engineers company-wide
- Optimized critical microservice by identifying and isolating high-traffic API endpoints into a separate microservice, resulting in 15% reduction in latency and a 30% decrease in service unavailability/user issues

Software Engineer (Capital One | *McLean, VA*)   **Aug 2020 – Feb 2022**
- Developed internal Slackbot tool that automates fulfillment of API endpoint requests, reducing a ~3 day manual process to ~2 min; built with AWS Lambda + Python (backend) and React + Slack API (front end)
- Increased anomaly detection and alerting of Springbok Java microservice-level performance and API traffic by 25% using new relic
- Reduced no. of weekly support issues regarding dataset access by 33% via API endpoint improvement via implementation and deployment of auto scaling groups

Software Engineer Intern (**Epic System Corporation** | *Verona, WI*)   **May 2019 – Aug 2019**
- Developed Android app to facilitate more efficient management of hospital supply inventory
- Implemented camera barcode scanning feature to facilitate validation of supply information, increasing efficiency of supply management workflow by 66%

Data Analyst Intern (**National Cancer Institute** | *Bethesda, MD*)   **May 2018 – Jan 2019**
- Implemented novel pipeline for analysis of 100 billion cancer-cell data points using UMAP dimensionality reduction techniques in Python and R
- Optimized analysis efficiency by 60%; refactored ~3,100 lines of legacy code to ~1,900 lines

Head Teaching Assistant (**University of Virginia, School of Engineering** | *Charlottesville, VA*)
- Database System (CS 4750) – Teaching concepts of relational and non-relational databases, ER diagrams, SQL, phpMyAdmin
- Software Development Methods (CS 2110) – Teaching concepts of OOP, inheritance, JUnit testing, recursion, and binary trees in Java; helping ~50 to ~70 students every week to master said concepts both in person and virtually

EDUCATION

Bachelor of Science (B.S.) in Computer Science (**University of Virginia, School of Engineering** | *Charlottesville, VA*
- GPA: 3.9/4.0. Relevant Coursework: Advanced Software Development, Operating Systems, Machine Learning, Database Systems, Algorithms, Programming and Data Structures, Human- Computer Interaction

CERTIFICATIONS
- AWS Solutions Architect Associate Certification - November 2021
- Certified Software Supply Chain Expert (CSSE) Certification - August 2020

SKILLS:
- **Programming Languages:** Java, Python, Scala, Kotlin (Android Dev), SQL, JavaScript, C++, HTML, CSS, R, Swift (iOS Dev), Dart (Flutter)
- **Frameworks:** React, Node, SpringBoot (Java), SBT (Scala)
- **Technical skills:** Git, Jenkins, Docker, Slack, Spark, Hadoop, S3, DynamoDB, EMR,

PROJECTS
- **Nomad**: App that allows users to meet/chat with people before going to a particular local, in- person event; built with React, Spring Boot, and MongoDB