

Khoa Bui

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SUMMARY

A cloud-native data infrastructure professional specializing in database administration with proven experience excelling in fast-moving, innovative organizations, and working with both “tried-and-true” and cutting-edge technologies using DevOps and Agile Methodology.

TECHNICAL SKILLS

Database: MySQL; MongoDB; Cassandra; Neo4j; PostgreSQL; MariaDB.

Programming: Python; Bash scripting; Javascript(focusing on MongoDB).

Monitoring: Grafana; Prometheus; CloudWatch; LogicMonitor; DataDog; New Relic.

Load balancer: ProxySQL; Elastic Load Balancer(AWS).

Cloud Computing: AWS(Specializes in RDS, EC2, and CloudFormation); GCP(Specializes in CloudSQL and Cloud Computing).

Encryption: RSA; Elliptic curve cryptography; SSL/TLS; SCRAM-SHA model.

Infrastructure as Code: Ansible; Terraform; Kubernetes; CloudFormation.

Methodologies: DevOps; Agile.

EXPERIENCE

Database Associate

May 2023 – Ongoing

Pythian

Remote, CA

- Maintained a high monthly billable-hours average of 85% out of the team average of 76% as a consultant, and an average of 61% out of the team average of 34% during the training period.
- Conduct cost-optimization analysis to save clients an estimated \$43,000 in yearly billing on MongoDB Atlas.
- Performed MySQL and MongoDB upgrades in production environments while maintaining an uptime SLA of upward of 99.9%.
- Configure and optimize a fleet of up to 72 AWS RDS instances.
- Managing and optimizing a sharding cluster of 42 MongoDB servers.
- Proposed an encryption-at-rest scheme for a major music streaming service with hundreds of millions of monthly listener.
- Troubleshooting outage issues relating to database, networking, and security, resulting in an average resolution time of 36 minutes.
- Provide documentation and participate in knowledge transferring between Pythian and our clients, resulting in quicker onboarding and lower ticket response time by an average of 32 minutes for each ticket.
- Deployed robust monitoring systems utilizing Prometheus and PMM, leading to 97% fewer false alerts, enabling less alert fatigue and more efficient response time.

Teaching Assistant; Research Assistant; Tutor.

Sep 2022 – May 2023

Concordia University of Edmonton

Edmonton, AB

- Utilized JavaScript, Python, and LaTeX to design an interactive learning web environment, resulting in a 16.3% increase in the class average starting from that semester.
- Designed and documented calculus, linear algebra, statistics, and game theory assignments, resulting in an average 4.8/5 rating on student satisfaction feedback.
- Implemented a reinforcement learning A.I. based on Monte Carlo Tree Search as a part of research into two people zero-sum class of game for a game theory research project.
- Designed the game rules and the logic of the set of games that we built for the game theory research project into placement games.
- Responsible for developing a healthy and safe learning environment for students with mental and physical learning disabilities.
- Created various frameworks to maximize the benefits of using C and Python to research LLL algorithm, elliptic curve cryptography, and game theory.

EDUCATION

Georgia Institute of Technology

M.S. of Science in Cybersecurity

- Ongoing GPA: 4.0.

Atlanta, GA

Aug 2024 – Present

Concordia University of Edmonton

B.S. of Science in Mathematics and Information Technologies

- Final GPA: 3.49.

Edmonton, AB

Sep 2018 – May 2022

University of Alberta

B.S. of Engineering

- Transferred.

Edmonton, AB

Sep 2017 – April 2018

CERTIFICATIONS

MongoDB Certification Subject Matter Expert

Skills: Database; Database Administration; Database Modeling; Solution Architect

MongoDB

Sep 2024 – Sep 2025

AWS Certified SysOps Administrator – Associate

Skills: AWS; Cloud Computing; Cloud Infrastructure; Cloud Operations; Cost Optimization

Amazon Web Services(AWS)

Jun 2024 – Jun 2027

AWS Certified Database – Specialty

Skills: AWS; Database Configuration; Database Design; Database Maintenance

Amazon Web Services(AWS)

Apr 2024 – Apr 2027

Neo4j Certified Professional

Skills: Graph Database; CQL; Performance Tuning; Data Modeling; Graph Analytics

Neo4j

Apr 2024

PCA: Prometheus Certified Associate

Skills: Data Monitoring; Linux; Monitoring and Alerting; Prometheus; System Architecture

The Linux Foundation

Nov 2023 – Nov 2024

MongoDB Certified DBA Associate

Skills: Data Monitoring; Linux; Application Administration; Database Optimization

MongoDB

Jan 2023

MongoDB Associate Developer

Skills: Data Modeling; Database Optimization; Software Engineering

MongoDB

Jan 2023

Apache Cassandra 3 Associate Developer

Skills: Data Architecture; Data Ingestion; Data Integrity; Data Engineering

DataStax

Dec 2022

Apache Cassandra 3 Associate Administrator

Skills: Database Administration; Database Design; Performance Tuning; Orchestration

DataStax

Nov 2022

Linux Foundation Certified IT Associate (LFCA)

Skills: Network Function; Linux; File System Management; Monitoring

The Linux Foundation

Oct 2022

AWS Certified Cloud Practitioner

Skills: Cloud Computing; Cloud Infrastructure

Amazon Web Services(AWS)

Sep 2023 – Jun 2023

PERSONAL PROJECTS AND WRITINGS

How to Back Up and Restore a Set of Collections in MongoDB Atlas

Technical Blog

- Created a cluster lab environment on MongoDB Atlas.
- Investigated the usage of URL and URI in connecting to MongoDB Atlas servers.
- Documented the result in a technical blog for Pythian.

Pythian 2024

MongoDB Atlas, Bash Scripting

How to Set Up a Neo4j Database

Technical Blog

- Experimented with various methods to provision a testing Neo4j environment.
- Find suitable data and clean the dataset using Python pandas.
- Orchestrated the data migration process using bash scripting.
- Documented the result in a technical blog for Pythian.

Pythian 2024

Neo4j, Cypher, Python

Sam, the Mental Distress Detector

NLP Project

- Achieved a 92% accuracy rate using Multinomial Naive Bayes and Support Vector Machine for keyword analysis.
- Launched the bot using Discord APIs

natHacks 2022

Python, Scikit-learn, Discord Development