

# Sandesh Bhusal

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in sandeshbhusal 🌐 sandeshbhusal 📍 Boise, Idaho

## EDUCATION

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### Boise State University

Aug. 2023 – Present

*MS in Computer Science*

Boise, ID

- **Thesis work:** Improving data-driven invariant inference in Computer programs.

### Tribhuvan University

Nov. 2016 – Nov 2021

*Bachelor's in Computer Engineering*

Kathmandu, Nepal

- **Coursework:** Artificial Intelligence, Data Structures and Algorithms, Distributed and Parallel Computing, Information Retrieval, Data Mining, Operating Systems, Software Engineering, etc.
- **Capstone Project: Video Compression using Deep Neural Networks.** Utilized deep neural networks - ConvNet, SpyNet and Pyramidal neural network structures to compress optical flow from video files. Publications here.

## PROFESSIONAL EXPERIENCE

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### NXLog

Oct. 2022 – Aug. 2023

*Software Development Engineer (Rust)*

Remote (Budapest, Hungary)

- Ported two sync rust modules to async rust modules on **Tokio** runtime utilizing libraries like **anyhow, clap, serde, etc.**
- Contributed to NXLogs Rust modules foundation library, with major rework on **retry, batching, backoff and OAuth** layers of "Async Rust Foundations" library.
- Rewrote module property testing harness, reducing QA test times by almost **20%** using **C** to Rust **FFI**.
- Identified and fixed multiple high-impact bugs using **gdb** and **rr** including one multi-threaded race condition.

### Logpoint (SIEM)

Dec. 2020 – Oct. 2022

*Support and Solutions Engineer*

(Kathmandu, Nepal)

- Spearheaded the design and development of a monitoring platform built with **Grafana, Prometheus, Go, Python, MongoDB and SQLite** which reduced manual monitoring time by **200%**.
- Wrote PoC for a replacement log-parsing module with a Rust which sped up parsing by **5000%** in some use cases (50x faster) compared to an equivalent Python module.
- Investigated and resolved multiple issues on Logpoint product platform based on **Ubuntu Server**, by **profiling, performance monitoring and runtime analysis** of Logpoint services.
- Performed critical upgrades and operations monitoring for special accounts and successfully deployed the product for **10** customers.

## Projects

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- **Memtrace** - Track memory usage in Linux as a function of file descriptor activity.
- **Crabby-DNS** - A super simple DNS packet parser.

*Other projects in my Github*

## SKILLS

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**Languages** Python, Rust, Java, Go, C, Javascript, C++, SQL

**Tools and frameworks** MongoDB, SQLite, NodeJS, ReactJS, Svelte, NextJS, Git, Jira, Django, Flask, Linux, Docker, Nix, Bitbucket, Confluence