Bharat KUNWAR
Software Engineer

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- Bristol, UK

> Senior Software Engineer with 8+ years building scalable distributed systems and cloud infrastructure across fintech and research
> Leading platform team at Two, architecting microservices infrastructure processing millions in transactions with 99.9% uptime

💼 PROFESSIONAL EXPERIENCE

Present
Jan 2024

Senior Software Engineer, Two, London (Remote)
> Lead platform team, overseeing infrastructure, SRE practices, and technical architecture
> Architect microservices on Kubernetes (GKE), ensuring infrastructure handles 10x previous load
> Champion adoption of AI-assisted development tools, improving team productivity and code quality
> Drive infrastructure-as-code and GitOps principles using Terraform, Ansible, Helm and ArgoCD
> Mentor junior engineers through code reviews and design sessions

Jan 2024
Sep 2021

Software Engineer, Two, London (Remote)
> Developed REST APIs handling 2M+ requests daily using Python and Go, maintaining >99.9% uptime
> Implemented microservices on Kubernetes (GKE) with monitoring using Prometheus and Grafana
> Built CI/CD pipelines with GitHub Actions, enabling 20+ daily deployments with zero downtime
> Managed infrastructure-as-code using Terraform, Ansible, Helm and ArgoCD

`Python` `Flask` `FastAPI` `Go` `PostgreSQL` `MongoDB` `Redis` `Kubernetes` `Docker` `GCP` `Terraform` `Helm` `Ansible` `ArgoCD` `GitHub Actions` `Prometheus` `Grafana` `Linux`

Aug 2021
Feb 2018

Software Engineer, StackHPC, Bristol
> Core contributor to Magnum OpenStack project, implementing cluster lifecycle management features
> Enhanced Magnum controller and API microservices, adding features including auto-scaling capabilities
> Automated HPC cloud management for STFC, Diamond Light Source and other institutions
> Active contributor to upstream OpenStack with 130+ commits across Magnum and other projects

`Python` `Kubernetes` `OpenStack` `Ansible` `Terraform` `Prometheus` `Grafana`

Mar 2017
Jun 2016

Research Engineer, Airbus Group Innovations, Newport
> Integrated Keras and OpenAI Gym with Aimsun traffic simulation for autonomous vehicle research
> Developed reinforcement learning models for autonomous vehicle coordination, boosting flow 15%
> Contributed to FLOURISH consortium, a multi-sector collaboration advancing the technology

`Python` `TensorFlow` `Keras` `PyTorch` `OpenAI Gym` `Reinforcement Learning`

Dec 2013
Aug 2012

Placement Candidate and Manager, Engineers Without Borders / Shelter Associates, Pune, India
> Co-developed GIS web application automating slum data collection and analysis for informal settlements
> Led volunteer recruitment and coordination, delivering mobile app that streamlined survey processes
> Created data visualisation dashboard that influenced local policy decisions

`Python` `Django` `PostgreSQL+PostGIS` `OpenStreetMap`

🎓 EDUCATION

2017

University of Bristol
PhD in Systems Engineering (Mass Evacuation and Crisis Readiness of Cities using Open Geo-spatial Data and Agent-based Modelling).
> Developed large-scale agent-based simulation framework for measuring city evacuation times and mining features from OpenStreetMap and open population datasets
> Created public data visualisation platform (https://massevac.github.io) demonstrating UK city evacuation time rankings with colour-coded indicators
> Published research in peer-reviewed journals and presented findings at multiple academic conferences

`Python` `NetworkX` `Pandas` `NumPy` `PostgreSQL` `PostGIS` `QGIS` `OpenStreetMap` `LaTeX`

2012

University of Bath
MEng (2:1) in Civil and Architectural Engineering.