

# Zella Baig

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## EXPERIENCE

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### Qube Research & Technologies (Quantitative Technologist)

May 2025 - Present

- Public description kept intentionally redacted

### SGX FX (DevOps Engineer)

Sep 2023 - May 2025

- Developed a pipeline to parse NLP notebooks into FastAPI-based Python containerised applications used internally via API to parse FX trade rejections, incorporating cross-region networking, load scaling, tracing, performance testing, and automated NLP testing & model generation
- Developed framework using Terraform & GCP to automate SSL rotations internally
- Introduced various tools and scripts to aide developers (e.g. KEDA-based autoscaling, new Helm charts for Redis-equipped applications), as well as provided general day-to-day support for DevOps related tasks
- Maintained & developed CI/CD pipelines using TeamCity, FluxCD, and other tools
- Introduced & maintained custom Terraform modules/forks
- Collaborated with the internal Data Team to provide an administrative database collecting users & FX subscriptions for a new application, and provided various endpoints and custom internal tools for management
- Implemented an full monitoring stack utilising tools such as Prometheus, Thanos, VictoriaMetrics, & Vector on Talos as part of a shift towards onprem kubernetes
- Aided in developing & end-to-end testing a brand new on-prem Java based applications used for data monitoring, including the initial configuration and developer pipeline setup
- Developed various ansible scripts such as automating maintenance and deployment of hardware management using node\_exporter, and implemented developer alerting for these scripts via GCP kubernetes-based solutions
- Supported general development of various internal tools used by developers to generate isolated “miniaturised” software stacks to test breaking changes

## SKILLS

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- CI/CD using Bamboo, Gitlab CI, Github Actions, FluxCD, TeamCity, Terraform
- Orchestration with Kubernetes, Docker, Helm
- Monitoring using VictoriaMetrics, Prometheus, Grafana
- Cloud: **AWS** (e.g. ECS, EKS, EC2, VPC); **GCP** (e.g. Cloud Run, Kubernetes Engine, Pub/Sub, Cloudfunctions)
- Automation scripting using Ansible, Shellscript, Python for e.g. streamlining developer workflows
- Java in enterprise high-throughput FX processing software, with testing using Cucumber, JUnit, AssertJ, Selenium

## EDUCATION

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### University of Oxford, Mansfield College - MSc Mathematical Modelling & Scientific Computing

2023

- *Dissertation: Singular Spectrum Analysis for Time Series*, working with BlackRock
- *Projects: **series\_scorer***: a Python package to denoise (via SSA) and cross-score similarity for multiple time series; **Adaptive Optimisation Algorithms**: analysis of recent ML algorithms with an application in house pricing; **Computational Call Pricing**: examining a neural-network based call pricing algorithm
- **Image Recolourisation**: python GUI program to recolourise images using RKHS methods for the backend; **Battery Modelling**: construction of a model to analyse battery degradation for electric vehicles

### University of Oxford, St. Hilda's College - BA Physics (2.i)

2019 - 2022