# Shashwat Murawala

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## Education

**University of Waterloo** Sept. 2022 – April 2027

Bachelor of Computer Science and Psychology Double Major with Cognitive Science Minor

## Work Experience

**Software Engineer** May 2025 – Aug. 2025

*Rocket Lab* *Auckland, New Zealand*

- Improved infrastructure outage detection latency to near real-time, as measured by automated alerting on availability failures, by designing and implementing an active pinging system integrated with Prometheus and a four-level Grafana dashboard.
- Reduced serialization overhead by up to 80% per operation, as measured by encoder/decoder benchmarks, by optimizing a custom serialization package used in production services.
- Increased internal message streaming throughput by 80%, as measured against NATS benchmarks, by contributing to a high-performance internal messaging and streaming service.
- Enhanced launch livestream viewer experience, as measured by real-time telemetry accuracy during YouTube launches, by developing a C# WPF desktop application with live data visualization and animated overlays for mission milestones.

**Software Developer** May 2024 – Dec. 2024

*Dayforce* *Toronto, Ontario*

- Reduced QA cycles by 20%, as measured by time-to-release, by developing end-to-end integration testing for the Hyperscale Next-Gen application and identifying critical bugs earlier in the pipeline.
- Increased data processing capacity by 60% and reduced processing latency by 40%, as measured by system throughput metrics, by contributing to a Kafka-based distributed processing system within the Hyperscale project.
- Improved application security posture by 35%, as measured by static analysis scores, by remediating 250+ vulnerabilities flagged by Veracode and SonarQube to meet industry compliance standards.

**Cloud Engineer** May 2024 – Dec. 2024

*WATonomous(WATCloud Divison)* *Waterloo, Ontario*

- Accelerated infrastructure provisioning by 40% and reduced manual intervention by 70%, as measured by deployment lead time, by automating management of 100+ cloud resources using Terraform and Ansible.
- Increased deployment speed by 30% and reduced downtime by 20%, as measured by CI/CD pipeline metrics, by designing and implementing 5+ Kubernetes- and SLURM-based integration and deployment pipelines.
- Maintained 99.9% system uptime while reducing operational costs by 15%, as measured by availability and utilization metrics, by scaling and managing HPC infrastructure across 200+ Linux systems using Kubernetes, SLURM, and Infrastructure as Code.

**Data Analyst** May 2023 – Aug. 2023

*JANA Corporation* *Aurora, Ontario*

- Reduced manual data processing effort by 40%, as measured by analyst hours saved, by developing an internal Python-based automation tool.
- Increased data retrieval and processing speed by 25%, as measured by query execution time, by performing in-depth analysis and optimization for the SIMP-CRA model using Python and SQL.
- Reduced ETL pipeline processing time by 30%, as measured by batch completion times, by automating ETL workflows for the MidAmerican TIMP project.

## Research Experience

**Machine Learning Researcher** Sept. 2025 – Present

*Algoverse AI Research* *California, United States*

## Skills

**Developer Tools**: Git, IntelliJ IDEA, Postman, MongoDB Compass, Jupyter Notebook, SwaggerUI, Veracode
**DevOps Tools**: Grafana, Kubernetes, ArgoCD, TeamCity, Docker, Apache Kafka, Jenkins, Terraform
**Languages**: Go, C++/C#, Python, C, PromQL, SQL, JavaScript, TypeScript, HTML/CSS, LogQL, LINQ
**Libraries & Frameworks**: React, WPF, Angular, Express, jQuery, Bootstrap, pandas, OpenCV, TensorFlow, Flask