

Alexandre Duchesne

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EDUCATION

TELECOM Nancy

Master of Science in Computer Science, Software Engineering

Nancy, France

Sept 2022 – Sept 2025

Lycée George Clémenceau

Preparatory Classes for Grandes Écoles – Mathematics, Physics & Computer Science

Reims, France

Sept 2020 – July 2022

EXPERIENCE

Software Engineer Intern - Compute Infrastructure

Palantir Technologies

London, UK

Apr 2025 - Sept 2025

- Re-engineered the storage layer of a Java high-throughput infrastructure system, increasing throughput by 30% under load and improving Cassandra stability by eliminating tombstones and reducing transaction conflicts.
- Designed a Kubernetes warm pool autoscaling algorithm that reduced infra costs by 50% without impacting performance.

HPC Specialist Solutions Architect Intern

Amazon Web Services

Paris, France

June 2024 – Aug 2024

- Benchmarked and profiled OpenFOAM across EC2 instance types, achieving 40% performance improvement through MPI and compiler optimizations on the same hardware.
- Deployed and orchestrated large-scale HPC clusters using AWS ParallelCluster with automated scaling and job scheduling.

DevOps Engineer

GetOut Sport

Remote

Sept 2024 – Present

- Built the company's entire production infrastructure from scratch on GCP with Kubernetes, Terraform, and GitOps, delivering monitoring, scaling, and CI/CD systems that improved latency, resilience, and operational reliability under real-world load.

PROJECTS

Secure Code Execution Platform | Go, Firecracker, Linux Networking

Feb 2023 – Dec 2023

- Architected a microVM-based sandboxing system with Firecracker for untrusted code execution, achieving sub-second startup and strong network isolation.
- Implemented a Go orchestrator to manage microVM lifecycles with resource quotas and monitoring.

Minecraft Distributed Systems | Java, Redis, MariaDB, Docker, CI/CD, SeaweedFS

2018 – 2025

- Engineered distributed state management for thousands of concurrent players with sharding, replication, and dynamic reassignment of player-owned regions across servers.
- Built infra automation in Go/Python to scale servers in real time and deploy plugins/configuration automatically under fluctuating demand.

Game Server Infrastructure Platform | Go, Java, Kubernetes, Prometheus, Grafana

2025 – Present

- Building a distributed infrastructure platform to replace Pterodactyl, supporting hybrid cloud and bare-metal deployment of game servers.
- Developing Kubernetes operators and local agents for autoscaling clusters and load-balancing traffic across servers.

TECHNICAL SKILLS

Languages: Java, Python, Go, C++

Systems/Infra: Linux, Networking, Kubernetes, Firecracker, Distributed Storage (Cassandra, Redis, PostgreSQL)

Performance/Debugging: Profiling, observability (Prometheus, Grafana, Loki)

CERTIFICATIONS

AWS: Solutions Architect Associate, Cloud Practitioner | **Languages:** French (native), English (C1, TOEIC 970/990)