BARDE ALEXANDRE

Software and data engineer and Scrum Master ◇ Specialized in the space industry

Available in Montreal in September

alexandre@brde.fr ◇ https://alexandre.brde.fr

ABOUT ME

I am a software engineer and Scrum Master who has worked on a variety of projects, all of which have space in common. I am used to working on projects with large data streams. I also had the opportunity to work on many different languages, those where I practice the most are Java, Python and Golang. I also work daily on cloud technologies, such as Kubernetes, Helm and Docker. All this is orchestrated on automated pipelines via different tools such as GitlabCI.

EDUCATION

Master's degree in computer science   *2019 - 2021*

Double degree :

- IT expert and information system
- Software development expert

Creation of Android applications in Java, whether for management applications or virtual reality games. Machine learning and deep learning for processing massive data and creating a chatbot to help diagnose a covid case. Creation of pipelines and scripts on GitlabCI to learn how to set up development and integration automation.   YNOV Campus, Toulouse

Bachelor degree in software development and quality   *2018 - 2019*

Advanced Java skills and various web languages, such as PHP, NodeJS and client-server architectures. Mastery of the main agile software development methods, such as Scrum and eXtreme Programming, Test Driven Development.   Paul Sabatier, Toulouse

Associate degree in computer science   *2016 - 2018*

Learning of several languages, like C, Java, Python, ADA. Design and administration of databases with Oracle or MySQL. Advanced use of Linux on a daily basis, writing different scripts as well as learning about the network and the administration and maintenance of Linux servers.   Paul Sabatier, Toulouse

Technological baccalaureate STISD   *2015 - 2016*

Sciences and Technologies of Industry and Sustainable Development - Information System and Digital Specialty Study of digital processing, learning of electronics and development of embedded software. Design of a project to convert a street lamp into a connected street lamp, in order to be able to control it remotely via a web application and to automate it. Live recovery of the values of the batteries and the solar panels.   Lycée Georges Cabanis, Brive La Gaillarde

PROFESSIONAL EXPERIENCE

Software and data engineer and Scrum Master on Galileo   November 2021 - Now

Thales Alenia Space, Toulouse

· Galileo is the European satellite positioning system initiated by the European Union.

· Leading and preparing the various ceremonies in a SAFe project.

· Development of JAVA microservices with SpringBoot to collect the different data streams (MDDN, OSPF, SIS, PRS, etc.) from the Galileo constellation in real time, decode them, process them and store them in databases. To monitor the health of the constellation.

· Deploy using cloud technologies like Kubernetes, Helm and Docker.

· Use of RabbitMQ and its clients in different languages to manage data flow. Redis for caching and InfluxDB for storage.
· **Technologies used :** Java, Python, Golang, Kubernetes, Helm, Docker, GitlabCI, Minio, RabbitMQ, Redis, InfluxDB.

Full stack developer - Apprenticeship
Thales Alenia Space, Toulouse

October 2019 - October 2021

· G2G is the program for the renewal of the Galileo satellite constellation via an ESA call for tender. Development of prototypes for the planning management of all the activities of the constellation and the ground segment. Like the maintenance of a satellite or the contact from the ground to a satellite to send navigation data.
· **Technologies used :** Golang, MongoDB, Docker, NodeJS, Swagger, tests end to end, GitlabCI.
· Second project: Architecture, development and cloud deployment of a monitoring and predictive maintenance product for satellite constellation monitoring (HUMS: Health and Usage Monitoring System).
· **Technologies used :** Kubernetes, Helm, Docker, Python, PostgreSQL, Kafka, Angular, NodeJS, Azure.

Full stack developer - Internship
Thales Alenia Space, France

April 2019 - August 2019

· Development of a Web GUI to supervise and configure satellite telecommunications network equipment installed in a traffic docking station.
· **Technologies used :** Angular, Grafana, API Rest and WebSocket.

Web Developer - Internship
GNH Conseil, Toulouse

April 2018 - June 2018

· Development of a Web tool to promote the implementation of actions in favor of sustainable development.
· **Technologies used :** Object-oriented PHP, MySQL database, Javascript.

TECHNICAL SKILLS

Software languages	C, C++, C#, Golang, Java
Languages	Python, Django, Bash, PHP, JavaScript, NodeJS
Technologies	MVC, HTML5, CSS, Latex, GIT
Databases - NoSQL	MongoDB, Cassandra, Redis
Databses - SQL	MariaDB, MySQL, SQLite, Oracle, PostgreSQL, InfluxDB
Tests	TDD, Junit, PHPUnit, Robot Framework
Cloud	Azure, Kubernetes, Helm, Docker, Firebase, Azure
CI/CD	GitlabCI, Jenkins

PROJECTS

TeamMatesFinder - YNOV Campus
Platform that allows you to search for video game teammates based on specific criteria such as their level, their role or if they are sociable.
Technologies used : Docker, PostgreSQL, Angular, ExpressJS, NodeJS.

Online store - AtelierCausseNature
Development of an online store of a craftsman who works with wood to produce jewelry or decorative objects.
Technologies used : NGINX, Symfony, PHP, MySQL, Bootstrap.

DevOPS pipeline - YNOV Campus
Automated deployment via the GitLab CI. Run tests, build, create a Docker image for deployment, error handling with Sentry and notification system via Slack.
Technologies used : GitLab CI, Docker, Shell, API Slack.

Android Development - YNOV Campus
Development of an Android application to manage a child's schedule, with tasks, alarm clocks and reminders. It allows to leave autonomy to the child so that it is responsible. This application is written in Java via Android Studio.
Technologies used : Java - Android Studio, Firebase.

Technical referent database - Aldostra
Advice and management of the databases of the Aldostra project, which is a Minecraft server on the Harry Potter universe, several hundreds of players connect to it in order to embody a character. I also set up the migration of our databases from Redis to MySQL by creating Java scripts to transfer the thousands of data.
Technologies used : Java, Redis, MySQL.

Co-manager of the 1st French-speaking forum Skript - Skript-MC
Skrip-MC is the first French-speaking Skript forum, which is a Minecraft plugin allowing to simplify the development on the game. Our community has nearly 25,000 members, I manage the team and the technical aspects of the forum.
Technologies used : PHP, NGINX, XenForo, communication on social networks, team management.

DreamTech - Bachelor degree in software development and quality
Development of a collaborative and playful platform to connect students wishing to revise. It allows to find partners to revise or an experienced student in a subject who seeks to help others. It integrates a gamification system to motivate users to use the site and its features, such as a system of experience, rewards or ranking. Implemented a continuous integration system with TravisCI and PHPUnit tests to guarantee a good maintainability of the project.
Technologies used : Symfony, TravisCI, Bootstrap, JavaScript, MySQL, PHPUnit, Scrum.

CERTIFICATIONS

Electrical authorization - B0 H0 BR BE Essai   INRS France
· B0 : Possibility of doing non-electrical work on low voltage equipment
· H0 : Ability to do non-electrical work on high voltage equipment
· BR : In charge of general interventions on low voltage installations
· BE Essai : Specific operations (tests, verification, measurement, operation) on low voltage installations

Certified Kubernetes Application Developer (CKAD) - In progress   Cloud Native
Computing Foundation - The Linux Foundation

· Core concepts : Understand how the Kubernetes API primitives work. Create and configure Pods.
· Configuration : Understand how ConfigMaps and SecurityContexts work. Definition of the resources of an application. Create and use Secrets. Understand how ServiceAccounts work.
· Multi-Container Pods : Understand the multi-container architecture of Pods.
· Observabiliy : Understanding how LivenessProbes and ReadinessProbes work. Handling container logs. Application monitoring in Kubernetes. Debugging in Kubernetes.
· Pod Design : Deployments, RollingUpdate and rollbacks. Understanding how Jobs and CronJobs work. Handling Labels, Selectors and Annotations.
· Services and Networking : Understand how the Services work. Handling NetworkPolicies.
· State Persistence : Use of PersistentVolumeClaims for data storage.