

# Alix Tavernier

R&D, DevOps and AWS Cloud engineer

Grenoble, FR

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🐙 [vtavernier](https://github.com/vtavernier) (<https://github.com/vtavernier>)



I started programming when I was around 10 years old, and I have now turned this passion into my career. After a 4 year experience in computer graphics research, I have now pivoted to DevOps practices and cloud infrastructure development. This atypical career path allows me to think critically about the daily challenges I am presented with, in order to answer the company's needs in the best way possible, while still ensuring we develop maintainable and robust software solutions.

## SKILLS

### Amazon Web Services

ArgoCD

Bash

C++

CUDA

ElasticSearch

Go

Jenkins

Kubernetes

Microsoft Windows

OpenGL

PostgreSQL

Rust

Terraform

Virtualization

### Ansible

AWS

C

CI/CD

DevOps

Git

Helm

Julia

LaTeX

Open Policy Agent

OpenGL GLSL

Python

Semantic Release

Terragrunt

WebGL

### Arduino

AWS Lambda

C#

CMake

Docker

GitHub Actions

Java

Keycloak

Linux

Open Source

Perl

Renovate

SQL

Testing

## WORK EXPERIENCE

oct. 2022 - Current

**Software Engineer** at KAIZEN Solutions (KZS)

📍 **Grenoble, France** 🔗 <https://www.linkedin.com/company/kzs/>

Contracting work for Schneider Electric

- Implementation and integration of OpenID Connect for CI/CD workflow authentication
- Development of an AWS internal developer platform (IDP) for artificial intelligence workloads
- Implementation of DevSecOps pipelines, release and update automation
- Languages: Go, Python 3, Terraform, Bash
- Technologies: Terraform, Terragrunt, AWS Lambda, AWS SageMaker, Semantic Release, Renovate, GitHub Actions
- Environment: Windows, Linux, AWS, GitHub Enterprise

oct. 2021 - sept. 2022

**Software engineer** at KAIZEN Solutions (KZS)

📍 **Grenoble, France** 🔗 <https://www.linkedin.com/company/kzs/>

Contracting work for Thales AVS

- Technical leader on a data collection, transformation and exploitation project
- Designing the software architecture for supporting new features
- Management of the project's operational tasks
- AWS cloud and Kubernetes (Helm) developer

- Code owner of the embedded data collection agents
- Languages: C++, Python 3, Terraform, Helm
- Technologies: ArgoCD, Elasticsearch, Grafana, Redis, Fluent-Bit, Metricbeat, Keycloak, Jenkins
- Environment: Windows, Linux, Docker, Kubernetes (K8s), AWS, Datadog
- Methods and integration: Git, Azure DevOps, GitLab

sept. 2020 - août 2021

**Teaching Assistant** at Université Grenoble Alpes

📍 **Grenoble, Auvergne-Rhône-Alpes, France** <https://www.linkedin.com/school/universit%C3%A9-grenoble-alpes/>

Full-time teaching at the university and follow-up work on my previous research work.

- Multiple classes taught in a computer science major : language theory, relational databases, and software development practices

sept. 2017 - août 2021

**PhD student** at Université Grenoble Alpes

📍 **Grenoble, Auvergne-Rhône-Alpes, France** <https://www.linkedin.com/school/universit%C3%A9-grenoble-alpes/>

Thesis preparation : controlling the appearance of stochastic procedural textures

- Publications regarding optimizing the Gabor Noise texture synthesis method via statistical indicators
- Involved in the research's team day-to-day life (organizing seminars, presentation and IT system administration)
- Teaching experience at university (algorithmics, relational databases and user interfaces at various levels)

févr. 2017 - juil. 2017

**Intern** at Inria

📍 **Grenoble, Auvergne-Rhône-Alpes, France** <https://www.linkedin.com/company/inria/>

Engineering graduate internship : studying and solving the strange visual artifacts occurring when procedural texturing with paradoxical requirements

- Review of the state of the art on procedural texture synthesis
- Development of objective measures of artifacts
- Study of related works on visual perception of artifacts

juin 2016 - août 2016

**Intern - Translation system for software products** at Eaton

📍 **Montbonnot, Auvergne-Rhône-Alpes, France** <https://www.linkedin.com/company/eaton/>

Analysis, choice and implementation of a platform for managing translations of Eaton's software products, and integration into existing software

oct. 2015 - janv. 2016

**Development of a customer relationship management system** at NSIGMA Junior-Entreprise

📍 **Grenoble, Auvergne-Rhône-Alpes, France** <https://www.linkedin.com/company/nsigma-junior-enterprise/>

Development of a customer relationship management Windows application for a tour operator.

## PROJECTS

**Texturing and shading of mountain panoramas in Pierre Novat's style**

mai 2016 - juin 2016

Study of the specificities of texturing and lighting digital mountain panoramas in the style of Pierre Novat.

**Rendering of mountain panoramas from digital terrain data in the style of Pierre Novat**

févr. 2016 - mai 2016

Study of various aspects related to the geometry rendering of mountain panoramas in the style of the famous artist Pierre Novat based on digital relief data.

**Person follower algorithm for telepresence robot**

févr. 2016 - mai 2016

<https://github.com/vtavernier/robair-follow-me>

Development of a person following algorithm for a telepresence robot using traditional computer vision techniques. This was used to help driving the telepresence robot automatically, for example if someone is giving a tour of a place to a remote attendee.

### Website for Ensimag's students' office

août 2015 - avr. 2016

[https://github.com/vtavernier/asso\\_ensimag](https://github.com/vtavernier/asso_ensimag)

Development of a web application to promote associative activity at Ensimag. This Ruby on Rails application allowed various actors to publish their events, blog posts and introduce their sponsors.

### EDUCATION

2014 - 2017

**Engineering diploma Software engineer** at Ecole Nationale Supérieure d'Informatique et de Mathématiques Appliquées de Grenoble

2012 - 2014

**Classe préparatoire PTSI aux grandes écoles** at Lycée Rouvière

2009 - 2012

**Baccalauréat Série scientifique, option sciences de l'ingénieur, spécialité physique, langue européenne anglais** at Lycée Rouvière

### PUBLICATIONS

30 nov. 2020

**Freely orientable microstructures for designing deformable 3D prints** in <https://hal.inria.fr/hal-02524371v3>

Nature offers a marvel of astonishing and rich deformation behaviors. Yet, most of the objects we fabricate are comparatively rather inexpressive, either rigid or having simple homogeneous behaviors when interacted with. In this work, we focus on controlling how a 3D printed volume reacts under large deformations. We propose a novel microstructure that is extremely rigid along a transverse direction, while being comparatively very flexible in the orthogonal plane. By allowing free gradation of orientation within the object, the microstructure can be designed such that, under deformation, some distances in the volume are preserved while others freely change. This allows to control the way the volume reshapes when deformed, and results in a wide range of design possibilities. Other gradations are possible, such as locally and progressively canceling the directional effect. To synthesize the structures we propose an algorithm that builds upon procedural texturing. It produces a cellular geometry that can be fabricated reliably despite 3D printing walls at a minimal thickness, for maximal flexibility. The synthesis algorithm is efficient, and scales to large volumes.

31 mai 2019

**Making Gabor Noise Fast and Normalized** in Eurographics 2019 - 40th Annual Conference of the European Association for Computer Graphics

Gabor Noise is a powerful procedural texture synthesis technique, but it has two major drawbacks: It is costly due to the high required splat density and not always predictable because properties of instances can differ from those of the process. We bench performance and quality using alternatives for each Gabor Noise ingredient: point distribution, kernel weighting and kernel shape. For this, we introduce 3 objective criteria to measure process convergence, process stationarity, and instance stationarity. We show that minor implementation changes allow for 17-24x speed-up with same or better quality.

30 nov. 2018

**Gabor Noise Revisited** in j•FIG 2018 - Journées Françaises d'Informatique Graphique

Gabor noise ingredients — points distribution, weights, kernel — can be changed. We show that minor implementation changes allow for huge 17 – 24x speed-up with same or better quality.

### LANGUAGES

#### English

Native Speaker

#### French

Native Speaker