Vincent Tavernier

R&D, DevOps and AWS Cloud engineer

Grenoble, FR

v.tavernier@pm.me

vincent-tavernier-707b5012a (https://www.linkedin.com/in/vincent-tavernier-707b5012a/)

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
Ansible
Arduino
ArgoCD
AWS
AWS Lambda
Bash
C
C#
C++
CI/CD
CMake
CUDA
DevOps
Docker
ElasticSearch
Git
GitHub Actions
Go
Helm
Java
Jenkins
Julia
Keycloak
Kubernetes
LaTeX
Linux
Microsoft Windows
Open Source
OpenGL
OpenGL Shading Language
Perl
PostgreSQL
Python
Renovate
Rust
Semantic Release
SQL
Terraform
Terragrunt
Testing
Virtualization
WebGL

WORK EXPERIENCE

oct. 2022 - Current
Software Engineer at KAIZEN Solutions (KZS)
Grenoble, France,
Contracting work for Schneider Electric

- Development of an AWS cloud infrastructure platform for artifical intelligence workloads
- Development of reusable Terraform modules
- 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,
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,
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,
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,
Engineering graduate internship : studying and solving the strange visual artifacts occuring 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,
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,
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
https://ensiwiki.ensimag.fr/index.php/Rendu_de_panorama_de_plans_de_ski_%22%C3%A0_la_Novat%22 (https://ensiwiki.ensimag.fr/index.php/Rendu_de_panorama_de_plans_de_ski_%22%C3%A0_la_Novat%22)
Study of the specifities of texturing and lighting digital mountain panoramas in the style of Pierre Novat.

Rendering of moutain panoranams from digital terrain data in the style of Pierre Novat
févr. 2016 - mai 2016
https://ensiwiki.ensimag.fr/index.php/Vincent_TAVERNIER_%28Encadrants_:_Renaud_BLANCH,_Michael_

ORTEGA%29_:_Cr%C3%A9ation_interactive_de_panoramas_de_montagne (https://ensiwiki.ensimag.fr/index.php/Vincent_TAVERNIER_%28Encadrants_:_Renaud_BLANCH,_Michael_ORTEGA%29_:_Cr%C3%A9ation_interactive_de_panoramas_de_montagne)
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 (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

Engineering diploma Software engineer at Ecole Nationale Supérieure d'Informatique et de Mathématiques Appliquées de Grenoble
2014 - 2017

Classe préparatoire PTSI aux grandes écoles at Lycée Rouvière
2012 - 2014

Baccalauréat Série scientifique, option sciences de l'ingénieur, spécialité physique, langue européenne anglais at Lycée Rouvière
2009 - 2012

PUBLICATIONS

Freely orientable microstructures for designing deformable 3D prints in https://hal.inria.fr/hal-02524371v3
30 nov. 2020
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.

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

Gabor Noise Revisited in j•FIG 2018 - Journées Françaises d'Informatique Graphique
30 nov. 2018
Gabor noise ingredients — points distribution, weights, kernel — can be changed. We show that minor implementation changes allow for huge 17 − 24× speed-up with same or better quality.

LANGUAGES

English
Native Speaker

French
Native Speaker