

# GUILLAUME KOTULSKI

## Senior Software Engineer

### CONTACT

- Email  
guillaume.kotulski@gmail.com
- Github  
[github.com/F4r3n](https://github.com/F4r3n)
- Phone  
On request
- Location  
Paris, France

### SKILLS

- Programming  
C++, Rust, TypeScript,  
Python, Shell, JavaScript,  
HTML, C, C#, CSS
- Tools  
Visual Studio, Git, VSCode,  
Perforce, Unity, Xcode
- Platforms  
Windows, Linux, Mac

### LANGUAGES

- French (Native)
- English (Professional working)
- Japanese (Limited)

### EDUCATION

2016  
Master's degree:  
Computer Science  
ENSICAEN. France

### ABOUT ME

6 years of experience as a Software Engineer, But how did I get there?...

I discovered my passion for coding in high school, where I used to write down lines of code during class and then transfer them to my computer afterward. Since then, my enthusiasm for exploring new technologies has only grown. I always have new ideas to implement, new articles to read. All the things I learn, I am always eager to share with friends and colleagues.

Outside of work, I am a passionate cyclist. You can find me learning Japanese, coding on personal projects and discovering new board games!

### WORK EXPERIENCE

#### Senior Software Engineer, 4D-Paris, France

2017 - Present

##### Project Leadership:

- Led development of 4D Language Server Protocol (LSP), enabling seamless 4D coding within Visual Studio and VS Code (C++, TypeScript). Designed and implemented custom editor extensions to enhance developer experience.
- Led 4D language improvement program to enhance the 4D language compiler & interpreter) resulting in optimizing the software to align with client demands. (C++)
- Managed cross-functional services such as DevOps, development, and documentation units by leveraging Node.js, Python, GitHub Actions to facilitate seamless integration between product and documentation.

##### Solution Design & Innovation:

- Engineered a new back-end for 4D mobile, achieving successful delivery within a record breaking one-week TaT.
- Innovated a front-end leveraging Svelte & JavaScript to streamline mobile project creation for 4D.
- Developed tools in Node.js to streamline documentation processes, improving efficiency and accuracy.
- Created IntelliSense C++ functionality in code editor, enabling features such as code completion, definition navigation & syntax checking.
- Modernized legacy codebase in Objective-C by upgrading to new APIs, replacing outdated macOSX interfaces with dark mode compatibility.
- Designed & implemented a ZIP library wrapper, enabling seamless manipulation of zip archives within the product.

##### Problem solving for Security enhancement:

- Developed a bash-based tool for signing generated Mac applications, resulting in enhanced security & deployment processes.
- Enhanced an obfuscation ZIP system to safeguard user code, enhancing security measures using C++.

##### Mentorship & Coaching:

- Mentored junior developers leading to improved code quality and faster issue resolution.
- Contributed to the growth of 4D's engineering team by actively participating in the recruitment and selection process.

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### WORK EXPERIENCE

#### Engineer R&D, STEREO LABS-Orsay, France

2016-2017

##### Mixed Reality/Virtual Reality Expertise:

- Lead developer for the Unity plugin for Mixed Reality/Virtual Reality applications.
- Designed and implemented a versatile light system utilizing both Forward and Deferred rendering techniques to seamlessly incorporate the ZED SDK into various projects. Pioneered a unique system for capturing Mixed Reality footage from alternative perspectives, enhancing the production of Augmented Reality interactions.
- Developed engaging mini-games tailored for Virtual Reality and Mixed Reality platforms, contributing to the immersive experience for users.

##### Problem Solving & Solution Design:

- Engineered a native plugin utilizing C++ and CUDA to seamlessly integrate with the ZED SDK, employing both OpenGL and DirectX for enhanced performance. Published comprehensive tutorials to assist new users in effectively leveraging the Unity plugin, fostering a supportive community and enhancing adoption rates.

#### Software Engineer Intern, Kingston University, UK

2015

##### Solution Design:

- Collaborated with Kingston Hospital to design and develop an interactive serious game using Kinect and Unity, enhancing patient engagement and rehabilitation.

Skills