Christiaan Keyter

Curriculum Vitae

Experience

2020-2022 **Senior Backend Engineer**, SLVRCLD, Netherlands.

I joined SLVRCLD at a very early stage in the company, and was responsible for designing and building the entire tech stack. We had some great challenges, like needing an extendable data pipeline of product and quote information for almost every product imaginable, and then performing complex replacement calculations in real-time via our API. Being able to design and build such a complex system out of nothing is quite a rare pleasure, and gave me an entirely new level of insight and knowledge. We decided early on to use Python and AWS as much as possible, which was critical in allowing our small team to build and iterate within the given timeframes.

I also had the opportunity to mentor a junior developer, and it's always great to see the enthusiasm and wonder of new developers. After a series of unfortunate events I was tasked with building a brand new front-end in React - running as a thin client over our Python-powered GraphQL API - while delegating more backend work to our junior developer. This unlocked many more valuable lessons in terms of API design, sharing knowledge, and using reusable components like Tailwind to build the website with a speed and quality I could only have dreamed of back in the early days of web development. Overall, my work here made me keenly aware of the ever growing potential of modern technology and small teams, and only served to deepen my love affair with Python.

2016-2020 **Software Developer**, Custos Media Technologies, South Africa.

At Custos, I was part of a 4-5 person dev team. We had a wide variety of products and services to run and maintain, so work in a typical sprint could range from doing AWS DevOps to working on a Java server to writing C++ watermarking algorithms. I picked up a tremendous amount of hands-on experience at Custos in designing, implementing and maintaining software stacks. As a small team, we had to come up with solutions to problems in many different domains, instilling the practice of learning new languages, environments and problems in order to find the best and most efficient solution. Some of my notable projects include:

- Porting a patented video watermarking algorithm from Python to C++
- Setting up our own Bitcoin Blockexplorer node running on AWS
- Designing and implementing a watermarking platform in Python with a Django front-end

2015-2016 **Full Stack Developer**, SureSwipe, Cape Town, South Africa.

I worked for SureSwipe mainly as a Javascript web developer, using the Meteor.js framework. My responsibilities included everything from designing and building apps with HTML, CSS & Javascript to coding Java servers and web services to managing MongoDB and SQL databases. During my time with the company I started a small project to create an app to help the service technicians with their daily work orders. This app turned out to be very successful and greatly improved the day-to-day performance of its users. The app was eventually released country wide across all of the company's branches, with all of the technicians being issued tablets specifically to use this app.

2014 **Software Developer**, Mobimine, Pretoria, South Africa.

I worked on setting up an infrastructure for a mining solutions company: setting up the IIS server, working on a ASP.Net MVC web interface, and creating a C# program to seamlessly extract MySQL data, generate PDF and Excel reports, and email these to customers at certain intervals. This C# program was run as a Windows service on a Windows server in order to allow the reports to be generated and sent at the right times. The report data was extracted through the use of stored procedures and DbMetal was used to map database objects to C# objects. For the ASP.Net web interface I used HTML, CSS and Javascript to provide the web functionality.

2012–2013 **Web Developer**, Davinc Consulting, Pretoria, South Africa.

For this project, JSP and Javascript was used to create a web interface and there was an interesting challenge of allowing the interface to display real-time graphs of a constant stream of electrical data in the browser, where performance testing and optimisation was very important. The data was pulled from a MySQL database and accessed with Java code on the server side, where it was parsed into JSON in order to send it efficiently over to the client-side Javascript code.

2012–2013 **Teaching Assistant**, University of Pretoria, Pretoria, South Africa.

Involved in the tutoring of students and marking of assignments. Subjects that I tutored include Data Structures & Algorithms, Design Patterns and C++ Program Design.

Education

2014 **BSc (Hons): Computer Science (with Distinction)**,
University of Pretoria, Pretoria, South Africa.

Dissertation focusing on a comparison between template metaprogramming in C++ and D. My research was aimed at comparing all the advantages of D over C++ in metaprogramming, and a number of famous examples were translated into D code to illustrate the power of the D language.

2011–2013 **BSc: IT**,
University of Pretoria, Pretoria, South Africa.

Specialising in Software Development. My final year project was to create a fully 3D online multiplayer game that operated in the browser. Everything was written in Javascript, the 3D graphics were created using Three.js on the client side, and on the server side Node.js was used along with Socket.IO in order to allow server push functionality. HTML5, CSS3 and jQuery were used for the web interface.

Awards

2013	UP Achievement Award
2013	Real IRM Solutions Award for Best C# Project
2012	UP Achievement Award (Top of my degree)
2012	Invitation to Golden Key Society

Computer skills

Advanced	Python, C++, C#, AWS, Godot, Qt, Java, HTML, CSS, Software Design, Software Architecture, Interface design, React
Intermediate	Unity, Game Design, C, OpenGL, Computer Security, Networks
Basic	Ruby, Assembly, Go

Languages

English	Fluent
Afrikaans	Mother tongue
Dutch	Basic (Learning)