Bjarne Stroustrup – Biography

By Gabin Todesco

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|  | **Bjarne Stroustrup** is a Danish computer scientist, professor and managing director, most known for being the designer and original implementer of the C++ language, one of the most used programming language in the world. He is the author of many books and scientific publications as *A Tour of C++* (2014/2018), *Programming – Principles and Practice using C++* (2008/2014), *The C++ programming language* (1985/1991/1997/2000/2013) and *The Design and Evolution of C++* (2013). |

Bjarne Stroustrup is born the 30th December 1950 in Aarhus, Denmark. He graduated from a master’s degree in computer science and mathematics from his hometown University, the Aarhus University in 1975, and a PhD in computer science from the University of Cambridge in England in 1979.

He then started to work as the head of Nokia’s AT&T Bell Labs’ Programming Research department, and that’s when, facing the problem of analyzing the UNIX Kernel with respect to distributed computing, and remembering his experience from his PhD thesis “Communication and control in distributed computer” with programming languages, he had the idea to create the C++. Originally called “C with classes”, it was adding to the C programming language, concepts from other ones such as Simula, ALGOL 68, Ada, CLU and ML. The choice of the C language for it was general-purpose, fast, portable and widely used.

In 1982, he started to develop the “C with classes” successor that we know today as the C++. Since then, Dr. Stroustrup has continued working on implementing, updating and maintaining the C++ making it in 2019 the fourth most popular programming language behind Java, C and Python.

The Dr. Bjarne Stroustrup has brought to the world a programming language, extension to a existing widely used one, adding useful functionalities to it making it object-oriented, generic and functional allowing low-level-memory manipulation, performant, efficient and flexible. It brought a lot in the computer science community, that is why it has and is still used a lot today in animation, games, applications, web browser, database access, media access, compilers, operating systems, scanning and many other uses.

The creation of the C++ had a great impact on its world for it has influenced many other languages such as Ada 95, C99, Chapel, Clojure, D, Lua, Nim, Seed7 and for the most famous and used ones, it has influenced the C#, Java, PHP, Python and Rust. It opened the way for the creation of all those languages, and allowed the creation of applications we use today that would be way different without the use of C++, as it is for Adobe Systems, Google Applications, Mozilla Firefox and Thunderbird, MYSQL Servers that are developed in C++.

Dr. Stroustrup’s C++ is a huge load of work for it is the work project of his life, he never stopped working on its enhancement and it has been more than 30 years, that is what we can call devotion. Also, his publications on the methods of development are saying a lot on the work of a software engineer. The basics of it often appears in his words, here are a few quotes from him to understand and wise words to live by as a software engineer :

* “A program that has not been tested does not work”, *The C++ Programming Language*. *pp. 712*
* “Anybody who comes to you and says he has a perfect language is either naïve or a salesman”, in *C++ 0x - An Overview* at *University of Waterloo Computer Science Club*
* “Far too often, ‘[software engineering](https://en.wikiquote.org/wiki/Software_engineering)’ is neither engineering nor about software”, [*Bjarne Stroustrup's FAQ: Did you really say that?*](http://www.stroustrup.com/bs_faq.html#really-say-that)*. Retrieved on 2011-04-11*
* “The connection between the language in which we think/program and the problems and solutions we can imagine is very close. For this reason restricting language features with the intent of eliminating programmer errors is at best dangerous”, [*Bjarne Stroustrup's The C++ Programming Language (Third Edition and Special Edition) Notes to the Reader page 9*](http://web.archive.org/web/20091128074415/http:/www2.research.att.com/~bs/3rd_notes.pdf#page=7)

And a last one, not because it does show his knowledge in software engineering, but because it is one that I agree with, and it is the reason I am willing to be a computer engineer.

“One of the things I really like about programming languages is that it's the perfect excuse to stick your nose into any field. So if you're interested in high energy physics and the structure of the universe, being a programmer is one of the best ways to get in there. It's probably easier than becoming a theoretical physicist”

*"Bjarne Stroustrup - The Essence of C++" talk on 28 April 2014 at the University of Edinburgh's George Square Lecture Theatre.*

For his work and what he brought to the world, Bjarne Stroustrup has many times received awards and honors such as :

* ACM’s **The Grace Murray Hopper Award** in 1993 that award computer professionals that who makes a single, significant technical or service contribution at or before the age of 35
* **ACM Fellowship** in 1994 for being an outstanding member of the ACM, it indicates excellence, as evidenced by technical, professional and leadership contributions that advance computing
* **IEEE Fellowship** in 1994 for the same reasons.
* **William Procter Prize for Scientific Achievement** in 2005
* **Dr. Dobb's Excellence Award**in 2008
* **Dahl–Nygaard Prize**in 2015
* **Fellowship of the Computer History Museum** in 2015
* **IET Faraday Medal** in 2017
* **Charles Stark Draper Prize** in 2018
* **Computer Pioneer Award** in 2018

**Sources**

<https://en.wikipedia.org/wiki/Bjarne_Stroustrup>

<https://en.wikiquote.org/wiki/Bjarne_Stroustrup>

<http://www.stroustrup.com/bs_faq.html#really-say-that>

<http://www.stroustrup.com/>

<http://www.stroustrup.com/bio.html>

<https://en.wikipedia.org/wiki/C%2B%2B#targetText=C%2B%2B%20is%20standardized%20by%20an,known%20as%20C%2B%2B98>.

<https://www.educba.com/uses-of-c-plus-plus/#targetText=It%20helps%20in%20optimizing%20the,games%20or%20in%20gaming%20engines>.

<https://www.mycplus.com/featured-articles/top-10-applications-written-in-c-cplusplus/>