Sergio
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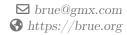
About   Software engineer with a strong interest in low latency, algorithms, data processing, and real-time rendering. Experienced in system design and programming, with a focus on performance, code correctness, and readability. Strong interest in security, general AI and future technologies. Autonomous and self-driven.

Education

2003 - 2010   **Computer Engineer**, *University of Castilla-La Mancha*

Final degree project awarded with summa cum laude.

Work Experience

2016 - Present   **Senior Software designer**, *Ericsson*, Madrid, Spain

During my time in Packet Core, I have contributed to Deep Packet Inspection functionalities, including programming data structures, debugging and logging utilities, and traffic analysis features. Real-time reporting of traffic statistics and events has also being part of my responsibilities. Requirements, Documentation, Support, Security, Concurrency. Driving the adoption of new C++ features. Mentoring other developers.

Awarded *Ericsson Key Contributor* for my primary contribution, being in optimizing TCP over radio connections, designing and implementing part of the functionality and conceiving one of the algorithms successfully used during the second phase of the product. I remain an active member of the development and maintenance team.

Currently developing a new QUIC-based functionality to enhance security in mobile connections.

PCG (*Packet Core Gateway*) is the cloud native microservice architecture where those features are included.

2011 - 2016   **Software designer**, *Blue Telecom Consulting*, Madrid, Spain

SASN   [2011-2013] Developing features and fixes for Ericsson's *Service Aware Support Node* product. Main contributions included *license management*, *low-latency events and statistics generation and serialization*, and general code maintenance.

DPI   [2013-2019] Working in *Deep Packet Inspection* and *Traffic Optimization* for Ericcson products. Developing multiple traffic analysis features, always prioritizing performance and low latency. Collaborating with a team of Ericsson engineers on developing functionality to optimize TCP/IP connections over radio networks

2011 - 2015   **Teacher**, *Master's program on video game programming*, University of Castilla-La Mancha

Teaching classes on special data structures for 3D representation, modern C++, and serialization.

Authoring the chapters covering these topics in the books published from this course, which became the best-sellers in their category on Amazon for a couple of years.

2009 - 2011	**Technologist**, *University of Castilla-La Mancha*, Ciudad Real, Spain
DEV	Development of a tool for calculating the positioning in a real-world environment, and overlaying digital graphics (Augmented Reality). State of the art application using C++. OpenGL and OpenCV.
ADMIN	System administration of linux systems. Running and manteinance of several services (web, db, cvs, mail).

Certifications

2024	**BCSS - CNE Experienced Automation assessment**, *Ericsson*, Experienced Level in the CNE Automation Area.
2024	**BCSS - CNE Fundamental Automation assessment**, *Ericsson*, Fundamental Level in the CNE Automation Area.
2024	**Cloud Native Fundamental**, *Ericsson*, Provided to employees who have demonstrated sufficient Fundamental knowledge on Cloud Native critical skills through Fundamental Assessment.

Projects

2008 - 2010	**Hesperia**, *University of Castilla-La Mancha*, Ciudad Real, Spain, Hesperia developed a state-of-the-art technology in security, video surveillance, and operations monitoring for infrastructure and public spaces.

Publications

2012	**Desarrollo de Videojuegos.Programación Gráfica**, *Bubok*, Co-author
	Video games development. Graphic programming.
2012	**Desarrollo de Videojuegos.Técnicas Avanzadas**, *Bubok*, Co-author
	Video games development. Advanced techniques.

Languages

Spanish	Mother language
English	Advanced/Fluent

Interests/Hobbies

Music	Amateur musician and guitarist.
Cinema	Cinamatography and color grading.
Sports	Healthy lifestyle.

Miscelaneous

Programming Lenguages	**C++, C, Python.** Rust, Assembly, Delphi, C#, Objective C.	Networking	**Internet Protocols**, Wireshark
Virtualization	**VirtualBox, VMWare, QEmu**	Containers	**Namespaces/CGroups, Docker**
C.V.S.	**Git**	CI/CD	**Gerrit, Jenkins, GitLab CI**
Editors/IDEs	**Emacs**, CLion, VSCode	OS	**GNU/Linux**, Windows, OSX, Haiku