

Diogo Ferreira

CTO · NETWORK EXPERT · PROTOCOL DESIGNER · PRODUCT DEVELOPMENT · SOFTWARE ARCHITECT · SYSTEMS DESIGNER

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Summary

I have more than 10 years of experience in technology, product, and engineering management with solid know-how in adopting software methodologies, agility, and innovation. Capable of transforming business needs from C-Level, Investors, and Customers, into technical products.

I have management and hands-on experience with various areas and technologies: network protocols, system design, distributed systems, cloud, and mobile. Also, I possess unique knowledge of network coding techniques. Additionally, I love to build ground-breaking solutions from scratch, with focus on performance and scalability. Led cross-functional teams towards concrete objectives, focused on delivery, especially under conditions of uncertainty. I'm always interested in embracing new challenges in complex environments involving different stakeholders. Results-oriented, creative, hands-on, and able to make decisions.

I love technology, problem-solving is in my heart and aviation is my passion. I am always eager to learn new things.

Work Experience

Codavel

Porto, Portugal

CTO & Co-FOUNDER

Apr. 2018 - Present

- Responsible for engineering leadership, product management and solution architecture. Co-inventor of the core technology used at Codavel.
- Development of an end-to-end protocol (Bolina), based on network coding, to improve data transfer speed and efficiency over unstable wireless links, such as WiFi or cellular. Bolina enables mobile services to fetch content in a faster way and to improve its end-user experience.
- Development and implementation of a new CDN (Content Distribution Network), from scratch. Codavel CDN relied on Bolina protocol to ensure faster data transfers, when compared to legacy CDN.
- Nominated for the Top 10 Most Disruptive Startups (Connectivity & Data track) at South Summit 2021.

Streambolico

Porto, Portugal

CTO & Co-FOUNDER

Mar. 2012 - Apr. 2018

- Responsible for engineering leadership. Co-inventor of the core technology used at Streambolico.
- Development of network coding solutions for efficient and reliable real-time content distribution with delay constraints over multicast for hyper-crowded wireless networks.
- Grand prize winners of the Concurso Nacional de Inovação BES 2012, one of the most prestigious Portuguese prizes for awarding innovation.

Instituto de Telecomunicações

Porto, Portugal

RESEARCHER

Oct. 2006 - Jun. 2015

- Development and implementation of a protocol for efficient and reliable real-time content distribution with delay constraints over wireless networks.
- Development and management of a network coding simulator: NECO.
- Development of secure routing protocols for mobile wireless networks.
- Supervisor: Professor João Barros

Telefonica I+D

Barcelona, Spain

INTERN

Aug. 2010 - Oct. 2010

- Design and development of network coding based protocols for video streaming under p2p networks.
- Supervisor: Dr. Alberto Toledo

NTT Docomo Euro-Labs

Munich, Germany

INTERN

Apr. 2009 - Jun. 2009

- Design and development of feedback schemes and reliable distribution protocols for video streaming in wireless networks.
- Supervisor: Dr. Joerg Widmer

FCUP (Faculdade de Ciências da Universidade do Porto)

Porto, Portugal

TEACHING ASSISTANT

Sep. 2007, Mar. 2011 - Dec. 2007

- Introduction to Programming*: in charge of the practical lectures. First year course for computer science, mathematics and biology areas.
- Conducted penetration testing on SAMSUNG Smart TV.

Education

FEUP (Faculdade de Engenharia da Universidade do Porto)

Porto, Portugal

PHD CANDIDATE IN TELECOMMUNICATIONS

Sep. 2009 - Jun. 2015

- Phd Student under the orientation of Professor João Barros
- Awarded fellowship from FCT (Portuguese National Science Foundation)

FCUP (Faculdade de Ciências da Universidade do Porto)

MSC IN COMPUTER SCIENCE AND NETWORK ENGINEERING

- MSc thesis: A Performance Evaluation of Network Coding

Porto, Portugal

Sep. 2007 - Jun. 2009

FCUP (Faculdade de Ciências da Universidade do Porto)

BSC IN COMPUTER SCIENCE AND NETWORK ENGINEERING

Porto, Portugal

Sep. 2004 - Jun. 2007

Honors & Awards

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| 2021 | South Summit - Codavel at the Top 10 Most Disruptive Startups , Track: Connectivity & Data | Madrid, Spain |
| 2012 | Grand Prize Winner of Concurso Nacional de Inovação BES , one of the most prestigious innovation awards in Portugal, as a co-founder of Streambolico | Lisbon, Portugal |
| 2009 | Doctoral Fellowship , from FCT (Portuguese Foundation for Science and Technology) | Portugal |

Publications & Talks

PATENTS

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| 2014 | Rui A. Costa, Diogo Ferreira, João Barros, "Method and apparatus for feedback-based real-time network coding" , | US Patent 9,602,246
EU Patent 2,751,943 |
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JOURNAL PAPERS

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|------|---|
| 2014 | Diogo Ferreira, Rui A. Costa, João Barros, "Real-time network coding for live streaming in hyper-dense WiFi spaces" , IEEE Journal on Selected Areas in Communications |
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CONFERENCE PAPERS

- | | | |
|------|---|------------------|
| 2009 | D. Ferreira, L. Lima, J. Barros, "Network Coding Protocols: Does Topology Matter?" , Future Internet Workshop 2009 | Santander, Spain |
| 2009 | D. Ferreira, L. Lima, J. Barros, "NECO: NETworking CODing Simulator" , SIMU-Tools'09 | Rome, Italy |
| 2009 | D. Ferreira, L. Lima, J. Barros, "Network Coding in Wireless Topologies" , IJUP'09 | Porto, Portugal |

INVITED TALKS

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|------|---|----------------|
| 2010 | Usages of Future Internet Research and Experimentation (FIRE) facilities , FIRE conference | Ghent, Belgium |
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Skills

Languages	Portuguese (native), English (proficient) and Spanish (general knowledge)
Fields of Expertise	Network Protocols, Cloud Architecture, Video Streaming, App Performance
Programming	C++, C, Java, Python, Node.js, Javascript, Kotlin, Bash Script, PHP
Cloud & DevOps	Docker, Kubernetes, Rancher, Terraform, NGINX, Varnish, AWS, GCP, Azure, DigitalOcean, Linode, Oracle Cloud
Data Analysis	Elastic, Kibana, Graphana
Web	HTTP, CSS, Vue.js, Vuepress