Samuel Cristobal, Software Engineer

Details

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Summary

I graduated in Mathematics with major in Algebraic Geometry and Logic in 2010 and stayed two more terms at the universities of Madrid and Vienna as associate.

From 2012 until 2019, I worked as a Research Engineer (promoted to senior in 2013 and director in 2017.) in a private research institute located in Madrid, our projects were funded by the EC in the fields of Data Mining, Graph Theory and network optimization.

In 2019, I moved to Innsbruck, co-founded DataBeacon and assumed the role of Software Engineer and CTO. DataBeacon is a B2B platform that provides Air Traffic Control as a service, ATCaaS.

The last 3+ years, I have been building DataBeacon's technology and team. The company serves a small group of early adopters, has two applications and multiple services in production, and has grown to around ~20 employees.

I am a very technical, hands-on individual. Therefore the prospects of being a CTO of a mid-size company are not aligned with my interests. It is time for me to move on and find new challenges.

Skills

Programming languages: TypeScript, Go, Rust. Previously: Python, Scala and C.
Frontend: React and Web Components with Lit. HTML5/CSS and SASS.
Backend: REST APIs, Web Sockets. SQL, MongoDB and Redis.
Languages: English (IELTS 8.0, July 2021) and Spanish (native).

Experience

Software Engineer

Company: DataBeacon (www.databeacon.aero).

Duration: From January 2019 until present day.

Responsibilities:

Complete lifecycle of user-facing applications. Integration with backend services. In charge of the engineering team.

- Successfully designed, built and deployed multiple single page frontend applications using TypeScript, React Redux.
- Improved reusability and performance of key components using Web Components with Lit and replaced critical hot paths with Rust and Web Assembly.
- Notable contributions to the UX/UI and design system.
- Architected, build and deployed REST APIs and Web Socket backends in NodeJS and Go.
- Built a team of 8 software engineers, data engineers and data scientists from scratch.
- Established best practices, workflows, tooling, linting, testing, CI/CD, DevOps and code style guidelines.

Director Research Development Engineering

Company: Innaxis R&D (www.innaxis.org).

Duration: From June 2017 until December 2018.

Responsibilities:

Responsible for data science and artificial intelligence research, solutions, and platforms.

- Write scientific software using Python in the field of data mining and machine learning.
- Deploy, test and profiling of Machine Learning models on AWS using custom scripts on EC2.
- Principal investigator for data science international research projects.

Senior Research Engineering

Company: Innaxis R&D (www.innaxis.org).

Duration: From December 2013 until May 2017.

Responsibilities:

Principal investigator, network optimization and data mining.

- Write scientific software using Python, C and Matlab-Simulink in the field of network optimization, data mining and knowledge discovery.
- Deploy, test and profiling of Machine Learning models on AWS using custom scripts on EC2.
- Scientific and technical writing, publications and conferences.

Research Engineering

Company: Innaxis R&D (www.innaxis.org).

Duration: From October 2011 until November 2013.

Responsibilities:

Analysis of delay propagation on stochastic graphs.

- Write scientific software using C and Matlab-Simulink in the field of network optimization and topology.
- Participation in international research projects.
- Scientific and technical writing, publications and conferences.

Education

Associate Research Fellow

School: Universität Wien.

Duration: From October 2010 until September 2011.

Topic: Research on algebraic geometry, singular geometries over finite fields.

MSc Mathematics and applications

School: Universidad Autonoma de Madrid.

Duration: From October 2009 until June 2010.

Major: Algebraic Geometry and Logic.

Assistant Intern

School: Universidad Autonoma de Madrid.

Duration: From October 2009 until September 2010.

Topic: Mathematical logic, model theory of formal systems with PROLOG.

BSc with honors in Mathematics

School: Universidad Complutense de Madrid.

Duration: From October 2004 until June 2009.

Major: Algebraic Geometry and Logic.

BEng Telecommunications

School: Universidad Politecnica de Madrid.

Duration: From October 2000 until June 2005.

Thesis: "Pseudo-random number generators based on discrete, chaotic attractors" with C.