

# Alberto Cortés

## Curriculum Vitæ

Madrid, Spain, UTC+1

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### General Information

Birth date 1977-05-05

Citizenship Spanish

Languages Spanish (native)

English (fluent, equivalent to CEFR C2 or Proficiency CPE)

GitHub <https://github.com/alcortesm>

ResearcherId <http://www.researcherid.com/rid/L-5343-2014>

LinkedIn <https://www.linkedin.com/in/alcortesm>

### Desired Employment and Skills

I am looking for full remote jobs as a Go programmer. I excel at and enjoy getting to the bottom of things as opposed to staying on top of things.

During my academic years, I developed keen critical thinking skills and a high understanding of the core, theoretical concepts of computation and networking; I feel comfortable working with the mathematics of sophisticated data structures and algorithms.

As part of my current career path as a developer, I have acquired the practical skills needed in a professional setting and focus on maintainability and keeping complexity under control.

### Computer Skills

Languages Go, bash. Minor experience/previously: Node.js, Java, C, octave, L<sup>A</sup>T<sub>E</sub>X, C++. Python, Lua, Lisp, C#, SR, Prolog.

Tools and Technologies git (+internals), Docker and docker-compose, make, GraphQL, REST, AMQP (RabbitMQ), SQS, MongoDB, TSDB (InfluxDB), CI/CD (CircleCI), cryptography (SSH, JWT, Auth0, PGP...), telemetry (statsd, Grafana) Minor experience/previously: Graph databases (Neo4j), PostgreSQL, pthreads, tcpdump, sockets, strace, valgrind, gdb, GnuPlot. gRPC, Protocol Buffers, MessagePack, ns2, Omnet++, troff.

OSs Linux (user-land and kernel). Previously: Plan9 (user-land and kernel), Windows XP, Symbian, Windows Mobile.

Protocols HTTP, TCP, IPv4, UDP. SCTP, POP3, IMAP, 802.11b/g, Ethernet...

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## Experience

2017-2020 **Back-End Programmer**, [Senseye](#), Southampton, UK.

- Condition monitoring and predictive maintenance for factory assets
- Full remote, team of  $\approx 10$  back-end programmers, agile methodologies
- $\approx 70$  services,  $\approx 2$ -8 deploys to production per day
- Common tasks: adding new functionality and enabling the system to scale.
- Personal focus: maintainability, testing and keeping tech debt under control

2015-2017 **Back-End Programmer**, *source{d}*, Madrid, Spain.

- Data processing pipeline for analysing git repositories
- Team of  $\approx 1$ -4 programmers
- A Git internals re-implementation in Go ([go-git](#))
- Abstract Syntax Trees generation and processing ([bblfsh](#))
- Talks and blog posts:
  - Papers We Love Madrid meetup: [Diff and Blame: an intuitive overview](#)
  - Comparing Merkle trees: [Comparing Git trees in Go](#)

2004-2015 **Researcher and University Professor**, [UC3M](#), Madrid, Spain.

- Teaching programming, OSs, concurrency and transport layer network protocols
- Experience writing technical documentation, presentations and public speaking
- Designing/using plagiarism detectors, automatic submission/evaluation systems, code evaluation and benchmarking
- Writing and evaluating scientific papers (see my [ResearcherId](#))
- Giving talks and presentations at scientific conferences and workshops
- Team management (undergraduates and researchers)
- Research projects:
  - Measuring computational performance of mobile devices
  - Optimizing battery consumption of network protocols
  - Improving multihoming network protocols for streaming
  - Improving indoor localization techniques.
- Writing deliverables and demos for public-funded research projects.

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## Education

2008-2012 **Ph.D. Telematics Engineering (Cum Laude)**, [UC3M](#), Madrid, Spain.

[My thesis](#) (in Spanish); main contributions: An SCTP modification to improve handovers, a synthetic filesystem for the Linux kernel to improve multihoming support and a theorem for optimizing probe scheduling for the detection of uniform random events.

2005-2007 **M.Sc. Telematics Engineering**, [UC3M](#), Madrid, Spain.

1995-2004 **B.Sc. Telecommunications Engineering (with Honours)**, [UC3M](#), Madrid, Spain.

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## Interests and Hobbies

The Go board game (囲碁, 11kyu), free climbing, mini painting, Rubik's cubes, hacking, Science Fiction books, juggling.