

Software Engineer

Experienced Software Engineer seeking hands-on technical role.
I write, rewrite, and refactor code to create secure applications that scale.

Technical Experience

Technology

- Languages: C, C++, Python, SQL
- Tools: MySQL, Ansible, uWSGI, Prometheus, Grafana, HCVault

Select achievements

- Pub/Sub Streaming websocket server that handles 4K events per cpu.
- Automated validation of all API input and output via openAPI specifications.
- Zero-downtime scale up of our single database/single table to partitioned databases per customer, 250 tables, 1TB.

Alcmeon, 2011 – 2023, CTO, co-founder

As CTO, I

- Deployed practical solutions to improve the confidentiality without impairing the availability of customer data via at-rest encryption, and, centralized access control.
- Scaled our code and infrastructure to sustain 50% YoY volume growth with 1000% YoY peak volume growth.
- Recruited and led the technical team (8 years)
- Grew and directly managed the engineering manager and product director.

As co-founder, I focused on

- Delivering high quality customer support
- Product design to ensure we build features that grow our business
- Presales to help close deals with prospects

INRIA, 2005 – 2011, Software Lead ns-3

Built ns-3, an open-source network simulator now used in hundreds of research publications every year.

- Designed and implemented core APIs: object model, network packets, event scheduler
- Implemented models for UDP/IP/ICMP, MAC/PHY Wi-Fi network protocols
- Integrated unmodified real-world network protocol implementations

But also:

- Recruited, and managed local development team (5).
- Relocated to University of Washington for 10 months to initiate collaboration with US team.
- Evangelized use of ns-3 within other research institutes via presentations and seminars.
- Published as main author (4) and co-author (3) papers on ns-3.

INRIA, 2003 – 2005, Software Engineer

Designed and built software for network research teams:

- Yans, a C++ event-driven simulator,
- NEPI, a python tool used to describe, deploy, and control networking experiments on hundreds of hosts distributed all over the planet.

Provided software mentoring to research projects involved in bio-reactor chemical reaction control and medical image analysis.

Sigma-Designs, 2001 – 2003, Software Engineer

Implemented DVD navigation control software for the video decompression chips that were developed by Sigma-Designs and sold to OEMs to build consumer DVD players.

Education

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| 2006 – 2010 | Ph.D. at University of Nice, <i>Experimentation Tools for Networking Research</i> , under supervision from Walid Dabbous |
| 1998 – 2001 | Engineer at Telecom ParisTech (ENST), Software Engineering, Networking, Micro-Electronics |