

# Alexandre Boeglin

Software Engineer

Paris, France  
www.boeglin.org  
40 years old



## Experience

2014–Now **Embedded Software Engineer**, *Parrot Faurecia Automotive*, Paris, France.

**2019–Now:** *Software engineer in the **Operating System** team.*

BSP and device driver development for boards produced by the hardware department, targeting the Linux kernel and u-boot bootloader, including:

- hardware bringup of boards based on Renesas R-Car Gen 3 and Telechips Dolphin+ SoCs;
- development of Linux drivers for Marvell BroadR-Reach Ethernet PHYs;
- integration of 3rd party device drivers (Wi-Fi, Bluetooth, GPU);
- writing of device trees, kernel and bootloader configurations. . .

Integration of the *OpenSynergy COQOS* hypervisor into Parrot Faurecia's Linux and Android based platform: assignment of memory mapped passthrough devices, paravirtualized devices, CPU and memory resources to each VM, and writing of device trees for each VM matching the hypervisor configuration.

**2017–2018:** *Software engineer in the **Business Development** team.*

Development of various prototypes and demonstrators used by the marketing department.

These were either based on existing products or original developments adding features, supporting more recent standards, or replacing customer product implementations by more generic and demonstrative ones (Linux and Android system images, C, C++, Java. . . ).

Provided technical support on these demonstrators to the sales team.

**2014–2016:** *Software engineer in the **Volvo Media Server & Tuner** product team.*

Software development and integration for an automotive digital TV receiver and UPnP media server, including:

- development of a network configuration service driving the board's Ethernet switch (eg. configuring VLANs, QoS and TCAM);
- development of a server exposing IP cameras streams and APIs to UPnP clients;
- setup of continuous integration, code analysis and automated testing jobs using Jenkins;
- development of a hardware testbench automation tool driving power supply and measurement equipments, used to inject controlled faults and instrument the device to assess that it reacts properly (in C#).

2010–2013 **Research Engineer**, *Inria*, Nancy, France.

*Research engineer in the **Madynes** research team.*

Development for various research projects and prototypes, including:

- development for Wireless Sensor Networks:
  - ported the *Contiki* OS to the *WSN430* sensors used in the *Senslab* testbed;
  - development of a driver for the CC1100 RF chip;
  - development of a distributed monitoring protocol based on 6LoWPAN and RPL;
- development for the *SecSip* SIP firewall: stateful filtering engine, Ajax management interface, integration of a SOAP server for remote management.

Coordination between the Security Work Package of the *FI-WARE* European Project and the Inria teams involved.

Network and system administration for the *High Security Lab*, a network testbed and large scale honeypot platform.

Part-time teaching at *Université de Lorraine* (24 hours per year).

2008–2009 **Video Game Developer**, *Creative Patterns*, Strasbourg, France.

Video games development in C++ for the Nintendo DS and Nintendo Wii, in C# for the Unity Engine; production tools development in Python and C# on Windows, including:

- development for the *TURN: The Lost Artifact* Nintendo DSiWare game;
- development for the *Alpe d'Huez SkiCross* Unity game (WebPlayer and iOS versions);
- development for the *Hospital Giant* Nintendo DS game;
- development for the *Fashion Designer – High Fashion* Nintendo DS game.

2004–2008 **Open Source Software Engineer**, *Nexedi*, Lille, France.

Development for the *ERP5* ERP software using Python and the Zope framework (invoicing rules, inventory calculations, production planning, divergence handling. . . ), including:

- integration and deployment of ERP5 for Infoterra: orders and production management for satellite imagery (living in Munich, Germany for 1 year);
- integration and deployment of ERP5 for an African financial institution: management of banknotes inventory and banking operations (living in Dakar, Senegal for 6 months).

Development of tools and scripts for the automated creation and configuration of GNU/Linux system images (Live CD or USB) used to build router (ADSL, Wi-Fi, firewall, IPsec VPN) and SME server (LDAP, groupware, X and VNC sessions, file server) appliances.

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## Education

2004 **DESS en Informatique**, *Université Louis Pasteur*, Strasbourg, France.

*DESS en Informatique, Mention Réseaux et Télécommunications.*

Master's degree in computer science, with a focus on computer networks.

2001-2003 **IUP GMI**, *Université Louis Pasteur*, Strasbourg, France.

*IUP Génie Mathématique et Informatique, Spécialité Réseaux Informatiques et Applications.*

Bachelor's degree in computer science, with a focus on computer networks.

2000 **1ère année d'IUT GEII**, *Université de Haute Alsace*, Mulhouse, France.

*IUT Génie Électrique et Informatique Industrielle.*

First year of an associate's degree in electric engineering and industrial computing.

1999 **Baccalauréat STI Électronique**, *Lycée Jean Mermoz*, Saint Louis, France.

High school diploma with a focus on electronics.

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## Computer Skills

Languages C, Python, C++, C#, JavaScript, SQL, Bash

Tools Debuggers, profilers, revision control, continuous integration

Computer Networks Ethernet, wireless (Wi-Fi, Bluetooth, 6LoWPAN), TCP/IP, IPv6

System Admin. GNU/Linux, OS X, Windows

Network Admin. Packet filtering, routing protocols, service configuration (BIND, Apache, Postfix. . . )

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## Languages

French Mother tongue

English Fluent

German Basics