Benjamin **Cathelineau**

EMBEDDED SOFTWARE ENGINEER WITH 2 YEARS OF EXPERIENCE

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Skills

Programming/Compilation	**C, C++**, **GCC**, GDB, Make, Python, Java
Tools	**IBM suite (Rational Rhapsody, EWM)**, Git, vim, VMWare WorkStation, VirtualBox
Systems	**Embedded Linux** (including **device drivers**), VxWorks
Modeling/Simulation	**Simulink, SystemC-TLM/AMS, QEMU**, Physical Modeling (Differential Equations)
Computer Networks	Cisco CCNA 1 and 2 (**Ethernet, TCP/IP** network expert), **Wireshark**, **NTP**
Languages	French (Native language), Fluent English (TOEIC 970, TOEFL 104)

Experience

SII, working at MBDA   *Le Plessis-Robinson, France*
EMBEDDED SOFTWARE ENGINEER   *February 2024 - Present*

- Project : Multiple embedded softwares in **C++** and **Java**, using **IBM Rational Rhapsody** for code generation
- These software interact through a **Ethernet** network and through a **1553** bus
- Member of a team of about 4 developers
- **C++**, **Java** : Conception and Development of new features, rework of existing features from legacy code, resolution of existing bugs
- Strengthening of the network (**TCP/IP**) configuration of the system
- Using scripting languages : **Python**, **PowerShell**, **bash** and **Makefile** for the automation of tests, compilation and documentation
- Automation of **IBM Rational Rhapsody** through the **Java** API
- Automation of **Wireshark** through the **tshark** command-line interface
- Writing a **C** code generator in Python for decoding network payloads into **C** structs. **C++** : Generating random unit tests for the generated code
- Custom **Embedded Linux** generation
- Finding and compiling updated **device drivers** (as kernel modules) for new linux kernel versions
- Porting non updated **device drivers** to new linux kernel versions (drivers written in **C**)
- Porting the source code to a new compiler (**gcc**) version : resolution of ensuing compilation problems due to **C++** standard changes
- Development of very robust scripts for the **NTP** time synchronization

TIMA Laboratory   *Grenoble, France*
EMBEDDED SOFTWARE AND SIMULATION ENGINEER (PHD CONTRACT)   *October 2022 - January 2024*

- Development of **Simulink/MATLAB** (including custom blocks using **S-Function**) and **SystemC (C++)** (AMS/TLM) SoC (**System-On-Chip**) models
- Comparative evaluation of Cyber-Physical Systems simulation in **Simulink** and **SystemC**
- Restauration and rework of legacy **C++** code, rework of legacy **Makefile**s

Université Grenoble Alpes, DLST   *Grenoble, France*
TEACHER   *January 2023 - May 2023*

- System and Programation Environment course for first-year university student : Labs and in-class exercices
- **Bash** scripts, **C** programming basics and simple finite state machine modeling

TIMA Laboratory   *Grenoble, France*
MASTER 2 INTERN   *February 2022 - June 2022*

- Parallel simulation of Cyber-Physical/Embedded System models in **SystemC (C++)**
- Restauration and rework of legacy **SystemC (C++)** code, rework of legacy **Makefile**s

Kayentis   *Meylan, France*
ENGINEER ASSISTANT INTERN   *May 2021 - September 2021*

- Automatic Response System **PowerShell** script
- Web Browser automation with **Python Selenium** for probing a Web Application
- **Jenkins** for automatically monitoring the Web Application

Givaudan   *Vernier, Switzerland*
INTERN   *April 2019 - July 2019*

- Research and deployment of an **Ethernet network** monitoring solution (Advanced Host Monitor)
- *PowerShell* scripting for automation

Abissa Informatique Genève   *Genève, Switzerland*
INTERN   *July 2018 - August 2018*

- Research and deployment of an IPAM (IP address management) solution (PhpIpam)

Education

Grenoble INP - Ensimag and Université Grenoble Alpes

MASTER OF SCIENCE IN INFORMATICS AT GRENOBLE - DISTRIBUTED COMPUTING: FROM CLOUD TO EDGE COMPUTING, EMBEDDED SYSTEMS AND NETWORKING

Grenoble, France

October 2021 - June 2022

- Obtained a PhD scholaship based on academic achievements

Grenoble INP - Ensimag

ENGINEERING DEGREE - INFORMATION SYSTEMS ENGINEERING

Grenoble, France

September 2020 - June 2022

Université Savoie Mont Blanc, exchange with Montana State University

BACHELOR - COMPUTER NETWORKS AND TELECOMMUNICATIONS

Bozeman, Montana, USA

August 2019 - May 2020

IUT Annecy - Université Savoie Mont Blanc

UNIVERSITY DIPLOMA OF TECHNOLOGY - NETWORKS AND TELECOMMUNICATIONS

Annecy, France

September 2017 - June 2019