https://parmentelat.github.io/

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some projects

R2lab
R2lab is a research lab for reproducible wireless experimentation, that exposes a few dozens of nodes located in an anechoic sheltered chamber; it primarily addresses WiFi, but also features Software-Defined Radio features with USRP extensions, that can for example host 5G networks it features an orchestration engine nepi-ng that is based on Python's `asyncio` asynchroneous programming paradigm, for massively parallel interaction with the testbed
I have been the architect and main developer of that testbed, including deployment, development and operations

nbhosting
nbhosting aims at extending teaching experience with Jupyter notebooks; it can be used as a silent companion to Learning Management Systems (LMS) like open-edx or moodle, or as a standalone micro-LMS of its own
I run a nbhosting instance that serves the notebooks for several MOOCs on France Université Numérique; the *Rectorat de Paris* currently runs several instances behind its Capytale service, that allows all teachers in the Paris region to easily use notebooks in their classroom
here again I am the architect and devops principal of this deployment

PlanetLab
PlanetLab is a world-wide testbed dedicated to research in the networking area; it uses containers to provide users with so-called slices on any number of the 1000+ nodes scattered around the world, that are currently managed from two federated operations centers, located in Princeton and in Paris
after creating the federation code, I have deployed and operated PlanetLab Europe in its initial phase, and was then remained the lead developer on the European side

Soft PBX
Centile's Ipbx aimed at providing a full replacement of a traditional PBX, as a software-only hosted solution for multi-tenant deployments in the context of unified communication
I was CTO of the French side of the organization

manufacturing
for AREVA (was called COGEMA back then), I designed and implemented various technical tools deployed on nuclear waste recycling factories at La Hague and Melox, that decisively contributed to increase both productivity and safety on the plants

simulation
MissRdp was a modeling and simulation system based on colored Petri nets, used for simulating, assessing and dimensioning large industrial objects
I was co-developer of that tool, that was used at the time by CNES and other big industries, mainly for safety-oriented assessments

teaching

MOOC's
co-author of a MOOC in French on Python that has so far attracted around 100.000 students since its first session in 2014; contributed a few others

engineering school
since 2019 I am deeply involved in the course of Computer Science for the 1st-year students at *École des Mines de Paris - PSL*

skills

software development	having been exposed to Open Source Projects since I was born to computing 35+ years ago, I am very familiar with common practices such as source code management, cooperation through merge requests, continuous integration, bug-tracking, trouble ticketing; follow me on github, as well as on the OneLab git for quite some stuff from the pre-github era account
experimentation	extensive experience in managing experimental setups, coordinating experiments and exposing their results in publications
architecture	design, implemention and operation of complex network applications and related topologies; fluent with most popular Internet protocols, as well as all mainstream OS's for computers and network devices
management	management of a Business Unit, contracts management, resources and facilities, international teamwork, hiring, bid preparation

experience

2002-now *INRIA – Institut National de Recherche en Informatique et Automatique*

INRIA is the French National Research Institute in Computer Science and Control Theory

» as part of the DIANA Project-Team , that studies Internet protocols and architecture, and now looks more into privacy issues, I am a solution provider for the whole team in terms of experimental facilities and tools

» this involves a wide range of activities in the DevOps spectrum, like primarily software development and operations, as well as dissemination and relationships with many international partners all over the world in Europe, the USA, Asia, and Australia, and of course, although to a lesser extent, publication

» design and deployment of the R2lab wireless testbed

» earlier I have been acting as a core developer for the PlanetLab project

» involved in quite a few projects funded by EU and French research programs, often as the technical lead, notably Equipex-FIT, OneLab, F-lab, Fed4Fire, …

2000-2001 *8x8 - Centile*

a subsidiary of *8x8*, a hi-tech company based in Santa Clara, that focused on VOIP software products

» in charge of a 20-people team, responsible for product integration, testing and support

» defined and implemented the complete production process, from marketing requirements to bug-tracking and support

» also in charge of pre-sales and customer relationship for Europe

1991-1998 *IXI - Ingéniérie Concourante et Systèmes d'Information*

a remote subsidiary of COGEMA, IXI employed 150 engineers for a business of about 15 M€; its business areas involved technical consulting, and software applications development

» in charge of a business unit - 20 engineers - Business 3 M€/y
» development of integrated and complex software projects, from bid preparation all the way down to delivery, maintenance, and customer relationships
» IT Management - in particular, IP over ISDN as early as 1992

1985 - 1991 *CEP SYSTÈMES*

this company focused on reliability-related studies for the industry; for my PhD in collaboration with INRIA, I designed and implemented a software tool supporting static metrology and programming standards named MÉTROPOL; after 1988, I lead the team that brought the product to the European market

education

1991 Ph.D. in Computer Science, C.N.A.M, Paris

1984 Ingénieur de l'École Polytechnique

languages

french mother tongue

english fluenty read, spoken and written

german school notions

other

sailing I have been sailing around the world on various kinds of ships in the 35-50 feet range

» sailed the West Indies from Grenada to Virgin Islands, around the Seychelles archipelago, in Greece and in Turkey; I crossed the Atlantic Ocean from Pointe-à-Pitre to Gibraltar on *Abricotine*, a Vauquiez 49"
» was part of the racing crew on *Maluba* - first an IMX-40 from X-Yachts, and later a Ker 39 from KER; the team has participated in about 10 first-class regattas a year in the Marseille to Roma area for about 10 years
» occasional regatta fellow on Léon, a JPK-1010 based in Juan-les-Pins
» I am very fond of *Toccata*, a La Trinité/Mer-based prototype 43"-open, with whom I regularly sail from Brittany to Spain, Ireland, and even Scotland when the planets get properly aligned