

# Gabriel Klein

# IT / IS Technical Leader | Enterprise Agile Architect

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Skype, WhatsApp, Team, WeChat, Zoom

## Values

I am dedicated to fostering a culture of creativity, empowerment, and innovation within teams. My passion lies in creating an environment where teams thrive, pushing the boundaries of what's possible in the world of technology and innovation.

## Education & Certifications

### EMBA EPFL, HEC, BiMBA

December 2013

The EPFL EMBA program is a joint program between EPFL, HEC UNIL and BiMBA targeting entrepreneurship, innovation and management of technology. (MoT) <https://mot.epfl.ch>

### ing.sys.com.dipl.EPFL - Master in Science Msc

October 2004

Master Program in Mathematics, Statistics, Physics, Computer Science and Electrical Engineering. (security, signal processing, vision, networking, computer engineering and systems.)

as

**Engineer in Communications Systems EPFL,**

with a

**Engineering diploma in Communications Systems**

<https://www.epfl.ch>

### Certificat de maturité

July 1997

with a

**Bac ès Sciences (High School Diploma)**

### Scrum

**Professional Scrum Master**

July 2012

**Professional Scrum Product Owner**

June 2023

### TOGAF Enterprise Architecture Foundation

August 2023

Badge <https://www.scrum.org/user/1504> and <https://www.credly.com/users/gabriel.klein/badges>

## Languages

**French**

Mother tongue

**English**

Good, daily usage in multi-cultural English speaking teams (~ C1 📄, B2-C1 🗨️)

**German**

School knowledge

## Interests

### Art & Sport

Trumpet player (Fanfare du Jorat), swimming, biking and skiing (Casual)

### Associations

President of the general council of my municipality (2016 - 2019), EPFL Alumni, EMBA Alumni

### IS / IT / IoT

Home automation (IoT), Mobile Apps (android), Raspberry, Arduino, Espressif (ESP32, ESP8266), 3D printing, drone flying, NFC, machine learning (KNN, GAN, LLM)

### Methodology

Togaf, Scrum, Enterprise architecture (agile), Prince 2, ISO/IEC

# Skills

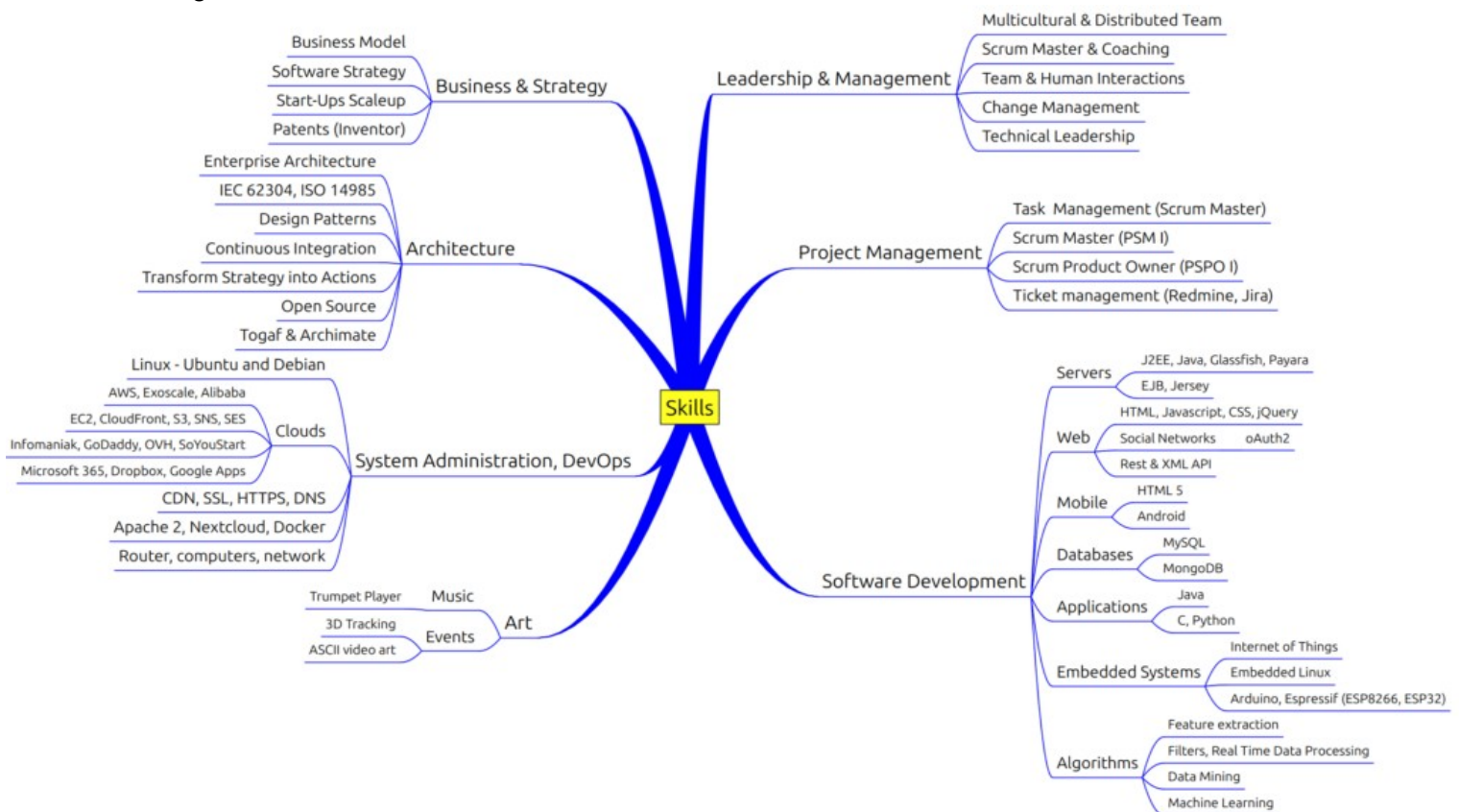
Experience working with startups at various stages of maturity. Variety of roles requiring a broad range of skills and have implemented processes to develop efficient teams in a positive working environment.

I am particularly interested in a mix of technologies, including hardware, software, mobile, servers, and cloud. Preference for open-source technologies and open systems.

## My skills

- **Startups Enterprise Architecture** : Building and maintaining a sustainable technical environment in a fast evolving scope. Aligned our development standards with IEC 62304 and ISO 13485 standards.
- **Management and leadership** : Developing efficient teams and positive working environments. I focus on creating a comfortable, secure and happy working environment using tools such as agility, Scrum, and effective communication.
- **Strategy and innovation** : Facilitating communication between developers and other team's members, and develop company's strategies that focus on modern IT/IS capabilities and limitations.

Expertise in cloud solutions (AWS), Linux (Ubuntu, Debian), JEE, MySQL, Java, Android, HTML/JavaScript, and various protocols and languages. Strong interest in using connected embedded systems, data processing and data mining.



# One-page resume of my work and education

Education and certifications are on the left. Work experience on the right.

Education and Certifications	Work Experience
<b>TOGAF® Enterprise Architecture Foundation</b> 2023	2023.10 Your company?
<b>Professional Scrum Product Owner – PSPOI</b> 2023	2023.06 - 2023.09 <b>Lab4Tech</b> (Internship / Togaf and Scrum certifications) Onsite learning
<b>Master in Business Administration</b> EPFL EMBA / HEC Unil (MoT.epfl.ch) 2013	2023.01 - 2013.07 <b>Léman Micro Devices SA</b> (Transferred to Signature-Investment / Leman Micro Device LLC) Vice-President Software and Architecture IT Manager & Solution / Software Architect
<b>Professional Scrum Master - PSMI</b> 2012	2013.03 - 2012.09 <b>Sword</b> Consulting company
	2012.04 - 2011.10 <b>SDATAWAY</b> EPFL Engineer
	2011.10 - 2011.09 <b>ElanIT / IMD</b> Mobile Architect and Developer
	2011.08 - 2008.06 <b>Poken</b> (Sold to GES) Chief Software Architect (CSA)
	2008.05 - 2004.12 <b>Ads-Click</b> Software architect and development engineer
	<b>Shorter experience</b>
<b>Master in Sciences</b> ing.sys.com.dipl.EPFL Engineer in communication systems 2004	<b>Epsic</b> ( 2008 - 2004 20% ) It instructor ( IT/IS and computer systems ) <b>IMD</b> (2004.11 - 2003.10) Java developer, then my master project <b>Sunrise, Zurich</b> ( 2003.09 – 2003.03 ) Data processing internship <b>EPFL</b> ( 2003 – 2000 ) Creation of some websites, digital art
<b>Bac ès Sciences</b> (High School Diploma) 1997	<b>Fabric   CH</b> ( 2000.06 - 1998.11, 20% ) Web developer, digital artist <b>Independent</b> ( 1996 – now ) Development of Internet Websites for associations, IT / IS Services
<b>Life certificate</b> 1976	

## More detailed information

Detailed professional experience, work certificates, diploma, recommendation letters, portfolio, can be downloaded on my web site or provided on demand.

<https://cv.nuage.ch> or [gabriel.klein@nuage.ch](mailto:gabriel.klein@nuage.ch)

# Annexes : Detailed Professional Experience

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I have worked for many different startups and adapted my role to the maturity of the company (CMMI), needs, team size and finances. Experiences in companies of more than one year are **highlighted in purple**.

## **Léman Micro Devices SA** (2013.07 – 2023.01, 10 years) **Vice President of Software & Architecture**

LMD is a startup developing a Bluetooth-based and I2C, ISO 13485 medically certified solution to monitor blood pressure using a mobile phone. Our team focuses on hardware, mobile and API development, with a B2B/B2C product targeting mainstream markets. As the leader of software excellence and architecture, I have built and managed a team, build the main components and architecture and developed key algorithms for our product. As a validation for my eMBA, I have defined a business model based on gamification for user retention and a technical / software strategy for the company. In July 2022, Lemman Micro Devices SA assets were transferred to Signature Investments LLC.

### Management

- Drive IT program of continuing development and innovation.
- Define vision and strategy with other VP, board.
- Coach and Manage IT team (up to 7 people): Scrum, Hiring, reviews, coaching, priorities and facilitate communication.
- Owner of the IT Quality and Process, clarification of projects, priorities, and architecture driven on data protection. Alignment with ISO 13485, IEC 62304, Prince2, RGPD, QMS.
- Manage projects and releases: Dev, Stage, Prod, initialization and closure of releases.

### Infrastructure

- Drive and administrate the IS infrastructure: costs, life cycle and upgrade of computers.
- Office 365 management, Dropbox then Nextcloud, Servers (OVH / SoYouStart), adobe.
- Cloud management: Alibaba (for China), AWS (EU, US, CH, rest of the world): EC2, SNS (SMS), SES (Email), S3

### Architecture

- Define high level structure architecture and communication between components (Calibration, Hardware, Cloud storage, Phone, data mining): Bluetooth, I2C, Rest API, Files (json and XML).
- Define and clarify integration by third party: Rest API, Jar (JAVA).
- Drive the choice of libraries, programming language in collaboration with owners of the different parts (Java, R, Python, Glassfish then Payara, Labview, Excel .... ).
- Define and implement our continuous integration systems: Jenkins, Maven, gradle.
- Quality of software: Align with good process (IEC62304, ISO 13485).
- Cybersecurity, RGPD and data protection, system of pseudonymization of data.
- System to store trial data and IDT (Internal development tests) data.

### System Administration

- Servers: Ubuntu Server, keep them up-to-date, security.
- Installation of servers and services: Apache2, Glassfish, Payara, MySql, R, python, Nextcloud, Wordpress, DNS (GoDaddy), SSL certificates (Let's Encrypt), Redmine, Gitblit, Jenkins.
- Backups process.

## Languages and algorithms

- Implement most of the algorithms (Java) for real time extraction of features from our signals, calibration, driving of user, implement filters.
- Implement in collaboration with data analysts algorithms in Java (People were working on Matlab, Python, excel for data mining, algorithms optimization). I was working in collaboration with them to improve our algorithms and implement them in Java.
- Definition of the format used by our “viewer” (R and html/js) and other data mining tools (Python and Excel): JSON, CSV, log files.
- Implement core functionalities of our Android application (I particularly love business logic).
- Implement our API server and administration interfaces using a Java EE 6 server: Jersey (Rest/XML APIs), JSF / JavaServer Faces 2, OAuth 2, JPA, MySQL, Enterprise Java Bean, MQTT, Annotations.
- Support and improve some scripts written in Python.

## Other

- Patents and PCT
  - <https://patents.google.com/patent/WO2014125431A4>
  - <https://patents.google.com/patent/WO2021124071A1>
  - <https://patents.google.com/patent/EP4076162A1>
- Basic electronic (soldering, data analysis)

## **Sword Consulting** (2012.09 - 2013.03, 7 months) **Senior developer / consultant**

During my EMBA, I have worked for sword on different missions.

- Implement an e-Coupon platform for a coffee maker : Symfony 2, MySQL, HTML5, jQuery
- Debug and implement new features on a web platform: Spring, jBoss
- Prototypes of mobile application on iOS (Junior) and HTML5.

## **S DATAWAY** (2011.10 - 2012.04, 7 months) **Software Engineer and Project Manager**

I have worked on “Internet of Things” R&D projects, dealing with our customers to define the requirements and acceptance criteria.

- Implement functionalities on an embedded linux to communicate with a consumer machine : IOT, Internet of things, embedded linux (Ralink SoC).
- Create an API to collect this data and ETL process to create relevant statistics.
- Create a viewer to display this data. The viewer was targeting a technical team for remote analysis, sales and business: HTML 5, Javascript, development in JEE, PHP and MySQL.

## **ElanIt / IMD** (2011.09 - 2011.10, 2 months) **Mobile Architect and Developer**

IMD was looking for a mobile architect and developer to quickly develop an application used by students to download and view videos on their phone.

- Implement a version on the BlackBerry using Java 2 Micro Edition (first month).
- Implement a version running on android using android SDK. (second month).
- Integration with SOAP .net SAP web services (Login, access rights, source of videos)

**Poken (sold to GES)** (2008.06 - 2011.08, 3 years)

**CSA, Chief Software Architect**

In this startup of 5-30 employees, we created an event-oriented product that facilitated interactions between people. Our solution combined hardware, web, and cloud services. I was the key responsible for our IT department and had multiple roles that adapted to the company's needs.

#### Management

- Develop the vision and architecture of the product based partly on my EPFL master project.
- Define the product goals, coach the team to follow an agile process, define priority of tasks.
- Leading and coaching a team based in Switzerland, Romania and California.

#### Infrastructure

- Manage our solutions running on dedicated machines (Redhat), improve performance using akamai and special flags on our apache2 configuration. (Start of the company).
- Manage our solutions running on AWS (EC2, S3, Cloudfront)

#### Architecture

- Due diligence, technical relation with our partners.
- Choice and validation of our technology: J2EE, MySQL, PHP, Glassfish, Jersey
- Lead development methodology: Hudson, subversion (SVN), ANT
- Define the secure algorithms to exchange token (XXTEA), secure exchange using NFC

#### Languages and algorithms

- Setup, optimization of our database using MySQL 5.5
- Development of the core of Poken in JEE, development of our API
- Development of the server using EJB, JPA, JSF, Jersey, XML and Xpath
- Android, development of the application using NFC

**AdsClick** (2004.12 - 2008.05, 3.5 years)

**Software Architect and Engineer**

We created an alternative to Google AdWords and AdSense in the domain of on-line marketing. I have built the contextual AdServer, the cyber-security fraud detection engine and data analysis system. I worked on the most sensitive parts of the platform in term of performance, high availability and quantity of data. We were serving ads on the front page of Wanadoo (1000 requests per seconds) and have developed an advertiser and publisher platform for Yahoo Japan.

#### Development

- Develop high performance ad servers using tomcat able to take data from different sources (internal system, external XML streams of ads.)
- Extract keywords on pages that integrate our script using JavaScript, find relevant ads from our different Ad Servers (contextual advertising). Injection of a Javascript code on publishers.
- Develop different formats to display ads. (IAB, custom formats, tagcloud).

#### Data mining and security

- Transfer logs of our AdServer to a data mining server, merge these logs using MySQL requests.
- Optimize MySQL to be able to process up to 1000 entries per seconds.
- Slow down, stop advertisers based on their budget, display most relevant ads, create billing statements.
- Detect frauds using IP, referee, browser information and contextual information.

#### Technical infrastructure

- MySQL, Java, PHP, Tomcat, Eclipse, Jdev, Ant, Junit, XML

**Epsic** (2004 - 2008, 20%) as **Teacher computer systems**  
I have given nightly courses to future “ES technicians”. My goal was to share my passion in IS/IT, and let them understand and learn the bases of computers, development and embedded systems.

**IMD** (2003.10 – 2004.11) as **Java developer  
then social networks scientist**

I was first hired as a java developer, then continued with my master project.

- Develop web pages using JSP, Jdev, eclipse and oracle.
- Conceive and develop an application in java and then an applet as part of my master project. The goal was to create a way to facilitate networking between students and help them to “break the ice” by finding common patterns: XML, image analyzing, java development, text analysis.  
<http://www.nuage.ch/projets/networking>

**Sunrise, Zurich** (2003.03 – 2003.09) as **Java developer**

I had the opportunity to do a kind of “internship” in Sunrise, Zurich.

- Synchronization of INA numbers (0900, 0906, ...) from a FTP to an oracle database, build interfaces used by the support team to query these numbers: CSV, FTP, Oracle, AspX / C#, .Net
- Develop an application in Java / JSP using tomcat and eclipse (Network provisioning system)). Train some people on object oriented programming and java.

**Fabric | CH** (1998.11 - 2000.06, 20%) as **HTML, C++ developer**

Fabric.ch is a web designer company in Lausanne.

- Digital version of a building plan for a big municipality: javascript, css, html, ASP, oracle database.
- R&D projects used as an example in the D-Club analyzing images and creating effects. As an example I was creating ASCII art using a video stream: C++, algorithms.

**EPFL** (During my studies) as **Websites developer, C++**

During my studies, I had the chance to work on many really interesting different projects, in particular.

- Implement CSS / HTML website based on a design (globalcomputing, Dr. Pearl Pu Faltings)
- Virtual museum in VRML
- 3d tracking system (Like the motion controller of PlayStation but 7 years before them), navigation in the “visible human”: C++, DirectX, signal processing. Used in two museum “Foundation Claude Verdan” in Lausanne and “Kulturama Museum” in Zurich. (Professor R. D. Hersch).

**Consultant** (Since 1996) as **IT/IS services for associations and SME**

Websites for associations and small companies, help with IT/IS systems (data recovery, remove virus, update software / hardware, help with IT process, mails) : Wordpress, HTML, Javascript, Ubuntu Servers, DNS.

# Annexes: Skills

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The goal of this section is to have a textual representation of the mind-map with my skills.

- Leadership & Management
  - Multicultural & Distributed Team, Scrum Master & Coaching, Team & Human Interactions, Change Management, Technical Leadership
- Architecture
  - Togaf and Archimate, Enterprise Architecture, IEC 62304, ISO 14985, Design Patterns, Continuous Integration, Transform Strategy into Actions, Open Source
- Business & Strategy
  - Business Model, Software Strategy, Start-Ups Scaleup, Patents (Inventor)
- Project Management
  - Task Management (Scrum Master) , Scrum Master (PSM I), Scrum Product Owner (PSPO I), Ticket management (Redmine, Jira)
- Software Development
  - Servers
    - J2EE, Java, Glassfish, Payara, EJB, Jersey
  - Web
    - HTML, Javascript, CSS, jQuery, Social Networks, OAuth2, Rest & XML API
  - Mobile
    - HTML 5, Android
  - Databases
    - MySQL, MongoDB,
  - Applications
    - Java, C, Python
  - Embedded Systems
    - Internet of Things, Embedded Linux, Arduino, Espressif (ESP8266, ESP32)
  - Algorithms & Data
    - Feature extraction, Filters, Real Time Data Processing, Data Mining, Machine Learning
- System Administration
  - DevOps
  - Linux - Ubuntu and Debian
  - Clouds : AWS, Exoscale, Alibaba, EC2, CloudFront, S3, SNS, SES, Infomaniak, GoDaddy, OVH, SoYouStart, Microsoft 365, Dropbox, Google Apps
  - CDN, SSL, HTTPS, DNS, Apache 2, Nextcloud, Docker, Jenkins, Hudson
  - Router, computers, network
- Art
  - Music: Trumpet Player
  - Events: 3D Tracking, ASCII video art