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Head of Software Development

I'm a hands-on Head of Software Development at Nanalysis, a leading manufacturer of advanced scientific instruments (NMR & MRI). Leading the software development behind the High-field NMR industry's first viable alternative, I take pride in optimizing project timelines, standardizing development methods, and fostering outstanding team retention and customer satisfaction.

Leadership & Management	Process & Tools
• Distributed team management, hybrid remote/on-site collaboration	• Agile project tracking with Jira
• Project management and resource allocation	• Git and Subversion for versioning
• Agile methodologies: Kanban, Scrum	• CI/CD with Jenkins and GitHub actions
Software development	**Technical skills**
• Software strategy formulation and execution	• Service-based architecture, REST APIs, Message queues, …
• Software architecture	• Languages: Java, C, Python, Rust, JavaScript, TypeScript, …
• Quality management (ISO-9001) and code review	• Databases: MySQL, Postgres, Oracle, SQLite

RS²D / Nanalysis: Head of Software Development   2020 - …

Led a distributed software development team of 15 people across France and Canada, overseeing multiple specialized teams:
Core: Developed backend libraries and desktop applications.
Embedded: Developed firmware for MRI and spectroscopy devices.
Scientific Development / Signal Processing: Applied cutting-edge algorithms for MRI & NMR applications.

Spearheaded the software development and successful market introduction of the NMR industry's first viable alternative product, disrupting a previously monopolistic market.

• Aligned software strategy with business objectives, optimizing project delivery timelines and team productivity.
• Standardized development methods and product release lifecycle company-wide, ensuring code quality, on-time deliveries, and maintaining ISO-9001 certification.
• Nurtured team talent through effective people management, achieving 100% team retention.
• Received increasingly positive customer feedback, reflecting high levels of customer satisfaction.
• Actively participated in all aspects of software development, providing hands-on contributions to new features and regular code reviews to foster a collaborative development culture.
Technologies: Java, Swing, JavaFX, Quarkus, Python, C, Rust

GE Healthcare: Senior Developer   2019 - 2020

Member of the "interoperability" team for a dose tracking solution:
• Maintained and improved the data ingestion platform, ensuring seamless integration with medical equipment from multiple manufacturers, streamlining data acquisition and analysis.
• Developed a PACS (medical image archive) indexing tool, leading to faster integration of customer systems.
• Conducted code reviews and implemented quality improvements within a SCRUM-based team, ensuring compliance for medical device software (ISO-13485).
Technologies: Java, J2EE, Spring Boot, JMS, DICOM, MySQL, MariaDB, React, TypeScript

RS²D: Software Engineering Manager   2016 - 2019

Software Team Management and Cross-Functional Collaboration
• Led and managed a highly efficient software development team of 3, fostering a collaborative environment and delivering successful projects.
• Coached MRI and hardware engineers, enhancing their programming skills for improved software, firmware and pulse sequence compatibility, leading to enhanced system reliability.
• Setup and training for versioning, continuous integration, ticket tracking and quality management tools
• Established effective development methods, selecting features, objectives and priorities to align with business goals and deadlines.
• Defined and implemented the software quality process, establishing and monitoring key indicators. Obtained ISO-9001 certification.
Maintenance and improvement of the software suite (Imaging, spectroscopy and development tools)
• Enhanced software quality, maintainability, and performance by conducting a comprehensive code base clean-up and streamlining internal architecture for increased system robustness.
• Developed advanced data acquisition, storage, visualization, and analysis tools, enabling efficient scientific usage and improved user experiences.
• Designed a robust Sequence and Plugin development API, enabling customizable functionality for third parties.
• Revamped the graphical user interface, optimizing usability and customer satisfaction.
Technologies: Java, Swing, SQLite, JAXB, Javassist (byte code manipulation), JGit

Embedded development on MRI and NMR systems
- Successfully interfaced FPGA and embedded software, enabling seamless communication between hardware and software components.
- Implemented hardware control, monitoring, and networking aspects of MRI and NMR systems, ensuring stable and reliable operation.

Technologies: C, Python, µC/OSII, embedded Linux, Arduino, Raspberry

CRIH Alsace (Strasbourg Hospital): Information System Architecture / Software Engineering	2002 - 2016

Development and implementation of ECG dematerialization — 2013 - 2015
- DICOM ECG Viewer
- Worklist server interfaced with multiple data sources
- Related DICOM tools: query/retrieve to WADO proxy, filtering store proxy, ...

Technologies: Java, Swing, DICOM, Dcm4che, ORM HL7, HAPI

Intranet portal redesign and modernization — 2007 - 2015
Technologies: Java, JSP (Tomcat), Citrix

Design and implementation of an authentication server — 2008 – 2012
Technologies: Java, Hibernate, Jetty, JSON, Web Services (XFire), HAProxy

Development of a "shared workstation" on thin clients — 2006 – 2009
Technologies: C, smartcard & PCSC, Linux

Creation of a collaborative portal application — 2004 – 2005
Technologies: Web, Python, Zope, Nuxeo CPS (collaborative portal server)

Development of a Mantis to Java/JSP converter — 2003
Technologies: Java, Applets, JSP, HTML, CSS, JavaScript, SQL (Oracle)

Coélis: Developer	2001

Development of a meta-search engine for patents
Technologies: HTTP, Python, MySQL, PHP

Personal projects and opensource contributions	

Blocks Language: Lead developer — 2007
Design of a visual programming language for the Java platform
Technologies: Java (Swing, Xstream, JSR 223, ...)

Lucane Groupware: Maintainer, architect, lead developer — 2002 - 2006
Nominated for the 2005 "trophées du libre", more than 50.000 downloads
Full development of an open source groupware
- Central platform on which the applications are built
- Peer-to-peer, "object-oriented" network protocol
- Synchronous and real-time applications: instant messaging, file sharing, forum, calendar, task list, personal notes, shared drawing, mail client, RSS reader, voice chat, ...
- Public relations, project management, documentation, seminars...

Technologies: Java (network, Swing, JSP, i18n, serialization), databases (HSQLdb, Mysql, Postgres, LDAP), web

Other contributions — 2002 - 2019
- QixBall: arcade game for Android (2018)
- Xemelios: authentication modularization, architecture advices (2006)
- TinyMCE: plugin development, bug fixes (2005)
- Nuxeo CPS: Contributor, quota management and authentication modules (2004-2005)
- Ruby: Sharp Zaurus port (2002)

Education	

2001-2002: *Licence professionnelle* "Designer/developper in distributed environments", IUT Illkirch
B. Sc in Computer Science.
1999-2001: IUT Informatique, Illkirch
Equivalent to an Associate's degree in Computer Science.

Miscellaneous	

French: native speaker
English: fluent, daily professionally use, 910 points on the TOEIC test in 2002.
Personal interests: Beekeeping, music (violin), go, sport (cycling – road racing).