

PASCAL HEUS

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SENIOR INFORMATION SCIENTIST AND DATA ENGINEER | AI AND DIGITAL TRANSFORMATION

Elevating High-value Data into Machine-Actionable, User-Friendly Digital Knowledge

Versatile information technology and data engineer professional with substantial experience and deep expertise in applying data science, AI, and global standards to high-value data. Enjoy collaborating with teams, leveraging effective communication and creative problem-solving to transform complex information into powerful, accessible knowledge and tools. Bring a hands-on approach to building elegant, practical solutions for challenging projects. Fluent in English and French.

Data Science & Technology | Toolkits & APIs | Global Standards | Infrastructure Modernization

TECHNICAL SKILLS

Development: Python; Node; TS / React; Rust; Java; VSCode / Antigravity; GitHub, CoPilot; AWS
APIs: OpenAPI; GraphQL; AsyncAPI; SPARQL; Postman
AI: Google; OpenAI; Manus; Anthropic; MCP; Agents; n8n
Data: CVS / Text; SQL; NOSQL; R; SAS; Stata; SPSS
Metadata: JSON; RDF / Graphs; XML; GraphDB; Virtuoso; Qlever; Mongo
Standards: FAIR; CODATA; CDIF; DDI; DCAT; Croissant; Schema.org; SDMX

PROFESSIONAL EXPERIENCE

FREELANCE, Calgary, AB 2025 - Present
Advanced technologies, services, and standards, fostering discovery, access, use, and quality of high-value data, and the emergence of machine intelligence.

- Developed open-source packages and public services towards the delivery of high-value data and standard metadata over APIs, focusing on process automation and machine intelligence.
- Integrated data and metadata with large language models and agents, exploring how LLMs can effectively leverage these as sources of information and facilitate the creation of digital knowledge around data.
- Participated in CODATA CDIF, CODATA DRUM, and MLCommons Croissant working groups, furthering the advancement of (meta) data-driven knowledge management.
- Conducted research and development (R&D) on leveraging gaming 3D engines (Unity, Unreal Engine, three.js) for publishing and exploring data in innovative ways.

POSTMAN INC., San Francisco, CA 2022 - 2025

Data Lead (Remote – Calgary, AB)
Collaborated with Kin Lane (API Evangelist) and Ankit Sobti (Founder) at Postman Open Technologies.

- Continued R&D around automating publication of data and metadata through APIs, and integration with the Postman platform, contributing toward features and supporting implementation of tools.
- Created initial version of open-source data/metadata processing packages, high-value data public APIs, and tools, automating creation of fully documented, data-centric collections in Postman.
- Gained significant knowledge and expertise around APIs and AI.

METADATA TECHNOLOGY NORTH AMERICA, Knoxville, TN

2007 - 2022

R&D Lead / Executive (Remote – U.S.A./Spain)

Operated under the auspices of Metadata Technology North America (MTNA), collaborating with affiliated organizations, including the Open Data Foundation (nonprofit) and Integrated Data Management Services (IDMS). Led development of MTNA platforms and partnered with global agencies to advance metadata-driven data infrastructure.

- Provided expert guidance, leading data and metadata management development projects for a wide range of government agencies and data custodians worldwide, including national statistical offices (Canada, Mexico, Australia, New Zealand), international organizations, U.S. agencies, and other data custodians.
- Collaborated closely with the National Opinion Research Center (NORC) on Virtual Data Enclave, an innovative environment providing remote access to highly sensitive data.
- Led research and development of MTNA products and platforms.
- Completed several tasks and projects, including 2 major deliverables:
 - Established institutional secure data portals for U.S.-based organizations, such as College Board of Education (CBE), National Science Foundation (NSF), Vermont Care Network (VCN), or Child Care Aware of America (CCAoA), significantly improving access to and use of institutional and public data.
 - Launched MTNA's Rich Data Services (RDS) and Ariā, innovative and unique platforms for managing high-value data and complex classifications, since adopted by Statistics Canada and Statistics New Zealand.

THE WORLD BANK, Washington, DC

2000 - 2007

Information Officer (Freelance)

Completed numerous data-centric projects supporting countries and major international organizations.

- Led technical implementation and maintenance of the Africa Household Survey Databank, developing innovative data archiving tools and techniques during the process.
- Created a comprehensive inventory of microdata for the African region.
- Provided technical assistance to statistical agencies in developing countries, establishing national/regional data repositories (Ethiopia, Benin, Mauritania, Rwanda, and others).
- Supported the launch of the International Household Survey Network (IHSN).
- Advanced development of Microdata Management Toolkit (MMT) and NADA data cataloguing platforms, widely adopted by national statistical agencies and international organizations.
- Managed implementation of microdata components of World Bank Data Development Platform (DDP), fundamental to production and publication of key global data sources, such as World Development Indicators (WDI) and Sustainable Development Goal (SDG).
- Major contributor to the design of the Data Documentation Initiative (DDI) Codebook and Lifecycle standards, now widely adopted globally for documenting datasets.

OTHER PROFESSIONAL EXPERIENCE

EMBASSY OF BELGIUM, Washington, DC, U.S.A.**MINISTRY OF FOREIGN AFFAIRS**, Brussels, Belgium**FREELANCE DEVELOPER**, Brussels, Belgium

EDUCATION / CERTIFICATIONS

Master of Science (MSc), Computational Science, George Mason University, Reston, VA
Focus on quantum computing and quantum information science

Project Management Professional (PMP), Project Management Institute, Washington, DC
Graduate Certificate, Computational Techniques and Applications, George Mason University, Reston, VA
Graduat en informatique, Université Catholique de Louvain (UCL), Brussels, Belgium