

EXECUTIVE PROFILE

Research leader specializing in multilingual AI, machine translation, localization quality, human-machine interaction, and the transformation of global content. Nearly three decades of experience spanning applied research, localization technology, international standards, quantitative analysis, cultural research, and business strategy.

Key Achievements

- ▶ Currently Vice President of Research at CSA Research – leads CSA’s distributed research organization, mentoring and guiding senior and junior analysts and setting its research agenda around the intersection of accessibility and localization, multilingual multimedia, and cultural customization; leads executive council sessions for CEOs of leading language companies and senior globalization strategists at Global 1000 enterprises, turning candid peer discussion of critical business issues into actionable industry insight and concrete strategic priorities; develops computational methods ranging from deterministic algorithms and individual-level simulation to Bayesian modeling, machine learning, and generative AI.
- ▶ Creator and lead developer of Multidimensional Quality Metrics (MQM), now widely used across the localization industry and by the machine translation research community – including by Google Research and WMT – to evaluate human, machine, and AI-generated translation. MQM enables organizations to define fit-for-purpose quality, validate systems, diagnose failure modes, and manage translation risk. ISO 5060:2024 – the international standard for evaluating human, post-edited machine, and unedited machine translation using an analytic error-typology approach – incorporates a fully compatible subset of MQM’s error typology.
- ▶ President of the MQM Council, leading the continued development and governance of MQM. Heads the current standardization effort, which has resulted in a standard in the final stages of approval by ASTM and pending publication.
- ▶ Led development of foundational localization interoperability standards including TMX, TBX, SRX, and GMX-V and shepherded TBX to adoption as ISO 30042, enabling multilingual data to move between otherwise incompatible tools and systems. Contributed sections to the W3C ITS 2.0 Recommendation.
- ▶ Originator of localization industry conceptual frameworks such as Post-Localization and Augmented Translation/ Human at the Core approaches to human-machine interaction.
- ▶ Co-creator of the Metrix 2.0 capability-maturity model used by language service providers to benchmark their performance and drive strategic business improvement.
- ▶ Developed applied research systems spanning individual-level customer simulation, economic forecasting, Bayesian/ Monte Carlo market modeling, and GenAI strategic intelligence to turn multilingual data into business decisions.

RESEARCH AND ANALYTIC METHODS

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|----------------------------------|---------------------------------------|---------------------------------------|
| • Deterministic modeling | • Economic & demographic modeling | • Retrieval & synthesis |
| • Individual-level simulation | • Textual/corpus analysis | • Qualitative & ethnographic research |
| • Bayesian & Monte Carlo methods | • LLM-assisted information extraction | • AI-assisted software development |
| • Survey research | | |

PROFESSIONAL EXPERIENCE

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CSA Research (Cambridge MA)

Senior Analyst (2016) • Director, Data Services (2020); VP of Research (2024)

2016–

present

- ▶ Leads research strategy, methodology, and execution for an independent research organization with Global 1,000 and language services clients, focused on globalization, localization, language technology, multilingual customer experience, and the business impact of language
- ▶ Leads a geographically distributed research organization of 3–4 analysts and 4–5 research assistants, guiding professional development, setting priorities, assigning and scoping projects, approving approaches, conducting performance evaluations, contributing to hiring decisions, and maintaining final accountability for research quality and publication readiness
- ▶ Sets and evolves the research agenda as technological and market conditions change, guiding the organization increasingly toward computational, AI-enabled, and just-in-time research methods rather than relying solely on conventional periodic analyst reports
- ▶ Designs and prototypes analytical systems using fit-for-purpose computational methods – including deterministic algorithms, individual-level simulation, probabilistic modeling, conventional data processing, and GenAI/LLMs – selecting techniques according to the problem rather than treating AI as a universal solution.
- ▶ Developed a pre-deployment GenAI strategic-intelligence system that combines company-specific information with CSA Research's proprietary research corpus to generate customized analysis and strategic guidance, moving research from generic publication toward decision support tailored to an individual organization's circumstances.

KEY RESEARCH-BASED PRODUCTS

- **Global Revenue Forecaster:** Integrates language, demographic, and economic data to quantify the incremental B2C opportunity associated with adding languages and identify high-value targets for localization investment
- **Global cx Calculator:** Simulates individual customer journeys using behavioral data from 9,908 B2C respondents across 33 markets and 2,800 B2B respondents across 28 markets to quantify how localization gaps affect purchase and repeat-purchase outcomes.
- **Probabilistic model of the global language-services market:** Uses Bayesian reasoning and Monte Carlo simulation to estimate industry size, structure, and economic flows from sparse and systematically biased survey evidence. The model incorporates geography, company scale, service mix, and external constraints to produce defensible probability distributions and explicit uncertainty rather than unjustified point estimates

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MQM Council (Bloomington IN)

President

2025–

present

- ▶ Leads the independent nonprofit organization responsible for advancing MQM and rigorous approaches to translation-quality evaluation
- ▶ Helped transition the MQM Council from an informal technical committee into a nonprofit, providing a durable institutional basis for governance, education, standards work, and continued development of MQM
- ▶ Guides the continued development and stewardship of Multidimensional Quality Metrics (MQM), enabling organizations to define fit-for-purpose quality requirements, evaluate human and machine translation consistently, diagnose systematic failure modes, validate quality systems, and manage language-related risk more effectively.
- ▶ Served as a core contributor to an American Machine Translation Association (AMTA) working group developing evaluation methods for Automated Quality Estimation (AQE), addressing the emerging problem of how organizations can determine whether automated predictions of translation quality are themselves valid and reliable.

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ASTM F43.03 Committee on Language Translation*Technical contact for WK46396 (standardization of MQM)***2015–
present**

- ▶ Serves as technical contact for the effort to formalize an MQM-based translation-quality standard through ASTM International, currently approved as a standard and pending publication
- ▶ Leads an international, geographically distributed, consensus-driven technical community of approximately 10–15 experts across North America, Europe, Africa, and South America, coordinating specialists from industry, academia, government, and standards organizations without hierarchical authority
- ▶ Builds technical consensus across stakeholders with differing organizational, commercial, methodological, and implementation priorities, converting a widely used industry framework into a maintainable formal standard

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German Research Center for Artificial Intelligence (DFKI)*Senior Consultant, Berlin Language Technology Lab***2012–
2015**

- ▶ Led applied research projects at the intersection of machine translation, translation quality, multilingual information, interoperability, and language-technology standards that involved participants from around the world
- ▶ Conceived and co-developed early versions of MQM in the EU-funded QTLaunchpad project as a systematic framework for defining and evaluating translation quality across human and machine translation, giving researchers and organizations a common methodology for specifying requirements, identifying errors, and comparing output – moving translation-quality assessment away from undifferentiated notions of “good” and “bad” output toward explicit, task-dependent definitions of what constitutes acceptable performance.
- ▶ Contributed to European Union research programs addressing translation quality, multilingual linked data, interoperable language technologies, and the machine-readable representation of multilingual information.
- ▶ Co-edited the *w3C Internationalization Tag Set (ITS) 2.0 Recommendation*, creating standardized mechanisms for representing localization and language-processing information in web content and enabling interoperable multilingual workflows across tools and organizations.
- ▶ Helped organize and lead the *Multilingual Web Workshop* series, bringing together leading researchers, standards specialists, and developers to address technical barriers to a genuinely multilingual web and develop shared methods, technologies, and standards.

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Localization Industry Standards Association (LISA)*Director of Standards and Chair of OSCAR standards committee***1998–
2011**

- ▶ Held progressively responsible roles spanning research publication, industry standards, technical coordination, and localization-technology strategy
- ▶ Chaired the OSCAR standards committee, coordinating technical stakeholders across competing companies and technology ecosystems to develop shared specifications and interoperable solutions.
- ▶ Led development of and contributed to core localization standards: Translation Memory eXchange (TMX), Segmentation Rules eXchange (SRX), TermBase eXchange (TBX), and Globalization Metrics eXchange - Volume (GMX-V).
- ▶ Led international standards and publication activities addressing localization technology, terminology, multilingual content, workflow interoperability, and language resources.

- ▶ Shepherded transition of TBX to adoption as ISO 30042:2008, establishing the international standard for exchanging structured terminology data across tools and organizations and reducing dependence on proprietary terminology formats
- ▶ Led LISA's liaison for international language-technology standardization with the U.S. Technical Advisory Group (TAG) to ISO Technical Committee 37 and contributed to its work
- ▶ Worked with localization technology vendors, enterprises, language-service providers, researchers, and standards organizations to identify common technical problems and turn them into shared specifications rather than organization-specific workarounds
- ▶ Ran Executive Roundtable sessions that brought together leaders of enterprises and language services companies to derive shared solutions to industry challenges

EDUCATION

- ▶ PhD, Folkloristics (Indiana University, Bloomington) – 2010. *Research spanning ethnography, cultural analysis, semiotics, linguistics, and quantitative analysis of textual evidence, with particular emphasis on how communities construct and interpret meaning – Dissertation: “Semiotic organology: A Peircean examination of the bagpipe and hurdy-gurdy in Hungary.”*
- ▶ MA, Folkloristics (Indiana University, Bloomington) – 2005. *Research focused on translation of primary cultural materials between Hungarian and English*
- ▶ BA, Linguistics (Brigham Young University) – 1997. *Graduated with highest GPA in department. Focused on semiotics and historical linguistics*

LANGUAGES

- ▶ English – Native
- ▶ Hungarian – Fluent
- ▶ German – Conversational

Visit arlelommel.com for more on the systems I design and build to support CSA Research's analysis, my work in defining core language sector standards, my research output, and more.