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Psychologist, Veteran, Linguist turned AI Consultant

I grew up translating between my Deaf parents and the hearing world, stress-tested language skills as USMC Intelligence translator (Iraqi Arabic, Pashto), then pursued a PhD at UW-Madison studying neural networks in language production—the foundation of modern LLMs. AI technology inherits human cognitive nuances; future HCI must design with these properties at scale. I am now applying this expertise as a consultant.

AI Consulting: *LLM strategy, system prompt engineering, chain-of-thought design, cognitive mirroring frameworks.*
Tools: *Claude Projects/Code, LangChain*

Research Methods: *Experimental design, millisecond-precision behavioral data, implicit decision analysis, neural network dynamics in language production. Python, R (lme4, tidyverse).*

ROLES *that highlight innovation in the theory, technology, and teaching of language.*

***Consultant*, Mark Koranda, LLC, (2025-present).** Strategized HCI design of LLM-backed chatbots, with clients ranging from an executive coach, philanthropic AI civic service platform, age-tech. System prompt engineering using chain-of-thought methods, cognitive mirroring frameworks based on CBT principles, conversational AI design optimizing for context efficiency and user cognitive load. Developed cognitive mirroring framework for therapeutic chatbot design, applying CBT Socratic questioning methods to multi-turn LLM conversations. Published thought leadership on bot therapy and AI-human cognitive alignment (markkoranda.com/blog).

***Technical Reviewer*, Apress, Springer (2025).** "Mastering Claude AI." Comprehensive technical assessment of LLM capabilities, prompt engineering methodologies, and implementation best practices across 401-page manuscript. Validated system prompt design, context management, and conversational AI optimization techniques.

***Subject-Matter Expert,* Edge RnD (2022-2025).** Presented and consulted in six strategic sales engagements, developing tailored AI implementation strategies. Conducted 40-hour comprehensive AI readiness assessment for startup client, providing detailed recommendations for technology integration. Designed machine learning platform for behavioral data analysis achieving 3x performance improvement over industry benchmarks.

***Software Design Engineer/ Business Analyst,* Edge RnD (2022-2025).** Wrote documentation procedures to resolve poor end-to-end visibility of training procedures for a large waste management corporation. First-line "white glove" tech support liaison for a state emergency-relief benefits platform. Managed and built knowledge base of 75+ documented business processes for a leading national service provider with federal and state compliance requirements, serving as Lead Business Analyst on billing software modernization.

***Lecturer*, U. of Wisconsin-Madison Department of Psychology (2021-2022).** PSYCH413 "Language, Mind and Brain" (~185 students): Taught Spring, 2021 and 2022. PSYCH610 "Capstone: Language Use as Self-Growth" (24 students): Designed and taught Fall, 2021.

***Behavioral Researcher*, VRnacular (2019–2021).** Designed behavioral experiments for VR language-learning software establishing 3x learning advantage over competitors. Consulted on strategy and grants.

***Strategic Vision and Team Lead*, CoronaWhy (2020).** Core leadership for 500+ volunteer developers building NLP pipelines extracting COVID-19 information from research literature for medical experts. Led data visualization and geospatial pipeline.

***Graduate Student Researcher*, Language and Cognitive Neuroscience Lab, U. of Wisconsin-Madison (2013-2020).**

Phonological patterns in all spoken languages. Designed a permutation algorithm that parsed a dataset of thousands of languages' sound features to identify all possible descriptions of common features.

Quantified the lost opportunity of implicit decisions. Led a collaboration on four innovative behavioral experiments that gamified language learning, manipulated exposure of unfamiliar words and recorded language use. Created reproducible analyses presented with dynamically generated statistical results and graphs (published in Psych Science).

Predicted and discovered real-language decision variability due to priming. Developed and administered seven behavioral experiments collecting and parsing speech audio data in response to a simple picture-naming task. Manipulations in speaking history led to unwitting, reliable changes in what people called the same picture (e.g., "dog" →"wolf"); unrelated past language alters neural dynamics and change our response from what we meant to say (1, 2, 3).

Cryptologic Linguist, United States Marine Corps (2005-2010), *Arabic and Pashto*. Quality control for top secret signals intelligence. Monitored live communications for actionable information. Translated and reported on hundreds of Iraqi and Afghan missions. Deployed to Afghanistan (2009-2010). Honorably discharged at the rank of Sergeant.

EDUCATION

Ph.D. (2022) in Psychology, University of Wisconsin-Madison. Dissertation: "The Probability of Lexical Selection"
B.A. (2013) in Psychology and Arabic (minor: ASL and Recording Arts), University of St. Thomas S*umma cum Laude*