IAN KELK

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PROFESSIONAL EXPERIENCE – SEE KELK.AI FOR LINKS TO CURRENT AI/ML/RESEARCH-RELATED EXPERIENCE

As a Senior Developer Relations Engineer at Hume AI, I'm at the forefront of empathic AI for our flagship empathic voice interface (EVI), measurement API, and custom model API. My innovation is showcased not just in my research—such as my paper on automatic fake news detection presented at ACL 2022 and the face recognition adversarial study for S&P 2023—but also in my entrepreneurial endeavors. I founded Virmuze, an online museum platform which hosts the NSA's National Cryptologic Museum online exhibits. My technical contributions span diverse projects, from a safety inspections concept recently featured in Bloomberg, to using YOLOv5 for search and rescue, to a visualization project using JavaScript D3 which won project of the year in Harvard's graduate visualization class. Complementing my professional achievements is my academic excellence as a Teaching Fellow for Deep Reinforcement Learning and a Master's degree in Data Science from Harvard University where I finished with a 4.0 GPA.

TECHNICAL SKILLS

Languages	Bash/Zsh, C, C++, C#, Java, D3 JavaScript/HTML/CSS, LaTeX, Perl, PHP, Python, SQL, GraphQL
Deployment	Docker, Kubernetes, AWS/GCP/Azure, GitHub Actions, OpenAPI, AsyncAPI, Fern
Project Management	Confluence, Jira, Markdown, git, GitHub, Trello, HubSpot, Docusaurus, GitBook, Agile, Scrum
Machine Learning	PyTorch, TensorFlow/Keras, Weights & Biases, Jupyter, SciPy/NumPy, dask, matplotlib/seaborn
Models/Algorithms	CNNs, Transformers, Llama/LLMs, BERT, RNNs, YOLO, Faster-R-CNN, random forests, XGBoost
Tools	Final Cut, Midjourney, Adobe Creative Suite, Tableau, Visual Studio, GPT-3 / GPT-4
Databases/Tools	PostgreSQL, MySQL, Weaviate, Clarifai (API & Portal), LlamaIndex, LangChain, Retrieval Augmented Generation (RAG), vector stores, semantic search

PROFESSIONAL EXPERIENCE

HUME AI | Hybrid Remote | New York City, NY | January 2024-Present

Advanced emotional intelligence technology to analyze and understand human emotions through voice, facial expressions, and text.

SENIOR DEVELOPER RELATIONS ENGINEER

- Provide expert guidance and solutions for technical support queries from our Developer Discord Server and partners.
- Author and maintain comprehensive API documentation in OpenAPI and AsyncAPI.
- Oversee and lead the development and maintenance of our Python and TypeScript SDK.
- Design and build advanced tools (client libraries, SDKs, etc.) to simplify API consumption.
- Collaborate in designing APIs to enhance usability and streamline flows.
- Champion the needs of the developer community, gathering insights to inform product improvements.
- Mentor and develop junior engineers, fostering a culture of continuous learning and improvement.

CLARIFAI INC | Remote | Wilmington, DE | June 2021-December 2023

Deep learning AI platform for computer vision, natural language processing, and data labeling.

SENIOR TECHNICAL PRODUCT MARKETING MANAGER / DEVELOPER RELATIONS MANAGER

- Deliver compelling content through presentations, tutorials, blogs, and social media to build Clarifai's reputation as a leader in machine learning and AI via educating and inspiring developers.
- Establish credibility with developers and developer communities as a thought leader in machine learning.
- Design and represent the company in hackathons, establishing their objectives and providing guidance throughout.
- Create technical and marketing assets such as demos and videos, and manage the community Slack and Discord.
- Act as product expert for the marketing team, understand industry use cases, and be the trusted partner for the sales and product teams. Manage goals, expectations, and KPIs to measure impact of various advocacy efforts.
- Edit and produce videos and voiceovers of tutorials and presentations by other teams.
- Manage distributed contractors to work on documentation, model notes, and blog posts.

VIRMUZE LLC | Miami, FL | 2016-Present

SaaS platform for museums to create online exhibits. Combining a website creator with social functions which track additions to exhibits and galleries.

FOUNDER

- Conceived and validated startup idea; created and designed wireframes for proof of concept including copy, assets, and multi-media. Product is used by many museums, including the NSA's National Cryptology Museum.

- Using agile software development methodologies, managed all stages of the web development life cycle, including planning, analysis, design & development, testing, implementation, and maintenance.
- Designed UI/UX for platform using agile methodologies, including user profiles, museum categories, user interactions, communications, and newsfeeds using tools such as Balsamiq Wireframes, Adobe Photoshop, and Final Cut Pro.
- Conducted market research and created an in-depth competitive analysis. Responsible for product roadmap regarding new concepts for future enhancements and features, using multiple lists in Trello to track quarterly feature sets and priorities for development. Focused on both high-level epic goals and low-level daily and weekly milestones.
- Participated in trade shows and speaking opportunities with various organizations to crowds ranging from 50 to 200 people.

HARVARD DCE | Cambridge, MA | 2023-Present

GRADUATE TEACHING FELLOW

- Topics covered: Markov Decision Processes, dynamic programming using the Bellman Equation, Monte Carlo methods in reinforcement contexts, temporal-difference Prediction & Control. Training neural networks using backpropagation, tuning strategies with emphasis on regularization, convolutional neural networks (CNNs), recurrent neural networks (RNNs), value-based deep RL using Q-networks, policy-based Deep RL techniques such as REINFORCE, asynchronous methods for deep RL like advantage actor-critic (A2C).

NEUSTAR, INC | Sterling, VA | January 2013- August 2014

Provider of information and analysis to multiple sectors with annual revenues of $800M.

PRODUCT MANAGER, ENTERPRISE SERVICES GROUP

- Product strategy for Neustar UltraDNS, providing Enterprise DNS for thousands of companies globally, including many Fortune 500 and Alexa Top 100 companies.
- Directed all aspects of platform and services for Neustar's UltraDNS (authoritative DNS) product, including the UltraDNS network redesign, which grew the platform from 16 to 30 nodes globally; network load dropped from 60% to 5%, with enormous potential for growth and increased ability to handle traffic spikes.
- Developed product and platform requirements, strategic product roadmaps, market and competitive analysis, writing of documentation and marketing collateral, and service offering definition for online, direct and channel sales.
- Coordinated marketing, UI/UX development, and operations projects across multiple departments and vendors; collaborated with marketing and sales teams for new customer acquisition and retention.

ADDITIONAL EXPERIENCE INCLUDES:

PRODUCT MANAGER | VBRICK SYSTEMS **|** Herndon, VA | 2013

PRODUCT CONSULTANT | Kelk Corp | Toronto, Canada | 2008-2012

SENIOR SYSTEMS ENGINEER | Network Solutions | Toronto, Canada | 2005-2008

PRODUCT MANAGER FINANCIAL SYSTEMS | Liberty Mutual | Boston, MA | 2001-2003

LOTUS NOTES DEVELOPER/ADMINISTRATOR | Teradyne Inc. | Boston, MA | 2000-2001

IBM/LOTUS PROFESSIONAL SERVICES CONSULTANT - Metropolitan Life | Bridgewater, NJ | 2000-2001

LOTUS NOTES CONSULTANT, UNITED SYSTEM SOLUTIONS | Toronto, Canada| 1996-1999

EDUCATION & CERTIFICATION

MASTERS, DATA SCIENCE, 2024, Harvard University - Cambridge, MA. Academic Honors, Dean's List

GRADUATE CERTIFICATE IN DATA SCIENCE (2022), Harvard University - Cambridge, MA

PRODUCT MANAGEMENT, General Assembly - Washington DC

BACHELOR OF SCIENCE, MATHEMATICS & COMPUTER SCIENCE - University of Toronto - *Graduated with honors*

ADDITIONAL

Published a paper *"Automatic Fake News Detection: Are current models 'fact-checking' or 'gut-checking'?"* using NLP for FEVER at the Association for Computation Linguistics 2022 and presented on behalf of Harvard University. Co-authored a paper on physical adversarial attacks on face recognition systems for biometric security, *"ImU: Physical Impersonating Attack for Face Recognition System with Natural Style Changes"* for S&P 2023. Worked on "Cloud2Cloud," a project on accurately measuring cloud-top heights to enhance the calibration and validation of satellite radiometric instruments as a joint project with Harvard University and NASA. Will be presenting findings to NASA in Huntsville, as well as to the U.N. as part of their AI for Good Global Summit in Geneva in May 2025.

Fluent in English and Spanish (certified by Government of Spain DELE exam, CEFR level C2) with high-level of French and Portuguese