ARI KAMLANI

AI & ML Leader, Principal Data Scientist
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Accomplished AI & Machine Learning (ML) professional skilled in leading strategic early-stage and large-scale machine intelligence algorithmic and infrastructure enterprise program initiatives, aligning technology success with business objectives. A cross-functional leader driving effective decision making, delivering on high-impact value propositions and product strategy, while de-risking product roadmap deliverables. Possess considerable experience across multiple modalities and domains, creating personalized trustworthy Responsible AI solutions incorporating Recommender Systems, Natural Language (NLP), Computer Vision (CV), and Reinforcement Learning (RL) systems.

PROFESSIONAL LEADERSHIP AFFILIATION HIGHLIGHTS

IEEE | Globally Distributed   *2020 – Present*
Committee Member – IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems (A/IS)
Contributing committee member establishing a product strategy in launching the IEEE Experts Network two-sided marketplace incorporating the Ethically Aligned Design (EAD) values-driven initiative

- Assist in crafting segmented target audiences, constructing customer journeys, and collaborating on product requirements in vetting and approving expert applicants, matching to the selective demands of seekers

Rutgers Center of Innovation Education | New Brunswick, New Jersey   *2018 – 2020*
Advisory Board Member – Big Data Strategy
Adjunct Lecturer and Advisor directing the Big Data Strategy corporate curriculum for industry professionals

EXPERIENCE

ThoughtWorks | Manhattan, NY   *2018 – 2020*
Principal Data Scientist – Professional Services (PS)
Shape portfolio offerings and capabilities in machine intelligent solutions and infrastructure, accelerating business opportunities per early-stage inbound pursuits, prioritize and guide the transformation of roadmap investments, grow the AI capabilities across the organization, and co-lead numerous discovery and delivery workshop sessions

- Led strategic developments in contextual multimodal enterprise intranet search ranking extractive QA information retrieval (IR) models incorporating user query disambiguation, semantic embedding vector analysis, and entity linking, accompanied with content governance monitoring and content annotation tooling
- Advanced multimodal model robustness system judgement outcomes across home mortgage claims, legal discovery, and police misconduct allegation industrial use cases incorporating calibration in fairness disparity, equal opportunity behaviors and model explanation attribution reasoning (SHAP, Integrated Gradients)
- Optimized supply chain lubricant distributor inventory stock replenishment decision modeling via anomaly detection, safety stock demand forecasting, and truck packing delivery convex solver optimization constraints

Pathmind (formerly Skymind within US) | San Francisco, CA   *2017 – 2019*
Deep Learning Engineer Consultant – Solutions Architecture
Create and champion products per Deep Reinforcement Learning (AnyLogic, Ray, RLlib) decision sequence modeling, Deep Learning for Java (DL4J) algorithm suite, and Machine Platform Infrastructure (SKIL)

- Enabled business development in technical solutions architecture, client partnership engagements, partner benchmarking optimizations (Intel Xeon), and delivery of custom enterprise training workshop sessions
- Boosted performance of conversational dialogue agents in transitioning from a TensorFlow BiLSTM Seq2Seq architecture to a knowledge distilled Transformer architecture family (BERT as NLU Encoder) with downstream models decoding high cardinality intents from large distributions of customer utterances
- Constructed robust Image Captioning TensorFlow network architecture models to semantically match natural language query intents to description rankings, imported and served natively by the SKIL JVM runtime
- Developed feasibility studies and prototypes per industrial automotive multimodal computer vision welding detection scenarios characterizing poor abnormal welding joint performance of robotic arm movements

JP Morgan Chase | Manhattan, NY   *2017 – 2018*
Data Scientist – Digital Intelligence, Consumer and Community Banking (CCB)
Strengthen the consumer and small business personalization experience, providing scalable recommended insights via Apache Spark for *Chase Products and Services* across the full regulated and governed modeling lifecycle
- Crafted and optimized scalable implicit machine intelligent ranking recommendation tuned models for *Chase Ultimate Rewards* encompassing customer redemptions and spending propensity patterns for branded offers
- Partnered with line of businesses (LOB) to deliver personalized insights, launching and monitoring deployed Chase card acquisition FOMO message underwriting and Ad-tech targeted spending campaigns
- Led efforts in improving suggestive Nudges for Savings Acquisition cash flows towards improving customer financial health via custom neighborhood embedding representation models at distributive scale

Techstars | Manhattan, NY   *2017 – 2017*
Technologist in Residence (TIR) – Venture Accelerator, IoT Division
Advise, facilitate design, and scale several IoT / M2M seed entrepreneurial startup ventures in their product pilot designs in acquiring their next round of funding and advancing product roadmap offerings
- Progressed startup venture product ML roadmap offerings, accelerating the execution across multiple concurrent customer pilots (75% improvement), while reducing technology and customer bottlenecks
- Crafted and augmented existing architecture solutions in IIoT Plug & Play NLP information extraction data product services, computer vision synthetic simulations, and scaling distributive computations (Apache Spark)
- Led technical venture mentoring and brainstorming sessions in overcoming adoption and design hurdles

Otto LLC (formerly Tyto Life) | San Mateo, CA   *2017 – 2017*
Data Scientist & Engineering Consultant – Products Division
Head the design, data acquisition, measurement, and pedestrian pattern detection for keyless secure door access control in residential and corporate environments
- Improved upon the intelligent pedestrian access control localization tracking and detection system via denoising RF sensory inputs (BLE, Radar) via non-linear Kalman Filters with off-device training (Python) and on-device firmware deployment (C) via ARM Cortex-M CMSIS DSP
- Established a new statistical pipeline to diagnose and improve upon the industrial factory unit yield production and factor assembly labor productivity rates

Inria Research Institute | Sophia Antipolis, France   *2016 – 2016*
Research Assistant – STARS (Spatio-Temporal Activity Recognition Systems) Research Team
Strengthen the research of computer vision semantic scene interpretation of healthcare diagnosis for the elderly
- Characterized activity scene understanding for medical diagnosis via semantic segmentation classification and offline ontology event recognition utilizing both classical computer vision and deep learning CNN architectures
- Enhanced ontology event scenario recognition models by further optimizing temporal constraints and prior contextual patient behavioral event states to reduce false positives in different localized area tracking zones
- Improved object detection recognition outcomes via model architecture fine-tuning and optimization

Nagra Kudelski Group | San Francisco, CA   *2012 – 2015*
Software Expert – Group Innovation & Incubation Research Team
Advance Technology and Application Innovation, pitching new special project research directives to the executive board, establish strategic partner relationships, research and develop solutions for portfolio value-add adoption
- Initiated proposals per Intellectual Property (IP), creation of patents, and formation of new business units
- Progressed development of early-stage technology innovations in digital media fandom entertainment for metadata content authoring and audience companion consumption
- Led initiatives to create new business revenue opportunities around low-cost innovative RFID BAP long-range pedestrian distance (300m+) detection tracking localization pilots in stadiums, theme parks, and ski resorts

Prior Work Experiences

- Sportvision, *Special Projects Consultant – Office of CTO, Motorsports Division*   *2011 – 2012*
- Broadcom, *Principal Engineer – Systems Engineering, Cellular Division*   *2011 – 2011*
- Qualcomm, *Staff Engineer – Computing and Consumer Division*   *2007 – 2010*
- TapRoot Systems, *Principal Engineer – Mobile Products & Services*   *2003 – 2007*
- Panasonic Mobile Communications, *Senior Engineer – Mobile Platforms*   *2000 – 2003*
- Verizon Wireless, *RF Engineer – RF Systems Performance*   *1999 – 2000*

PROFESSIONAL AFFILIATIONS

- IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems, Committee Member   *2020 – Present*
- Manning Publications, Content Advisor and Reviewer   *2020 – Present*
- The Institute for Ethical AI & Machine Learning, Contributing Member   *2019 – Present*
- Rutgers Center of Innovation Education, Big Data Strategy, Advisory Board Member   *2018 – 2020*

PATENTS

- Device Localization Based on a Learning Model; United States 9681270   *2017*
- Interference Control in Wireless Communication; United States 10075963   *2016*

EDUCATION AND CREDENTIALS

Education

- M.S. Data Science, Data ScienceTech Institute (Paris, France) – Course Credits Forward   *2016*
- B.S. Electrical Engineering (EE), Lehigh University (Bethlehem, PA) – Degree Received   *1999*

Notable Certifications

- Product Management, Product School   *2020*
- Design Thinking, Rutgers Center for Innovation Education   *2019*
- Big Data Strategy, Rutgers Center for Innovation Education   *2019*
- Data Science Immersive, Galvanize   *2016*

TECHNICAL SKILLS

Agile PM	Jira, Pivotal Tracker, Basecamp, Aha, Miro, Notion, Bugzilla, Trello, Doors
UX Design	InVision, Balsamiq

ML Frameworks/Ecosystems	TensorFlow, PyTorch, Keras, DL4J, Scikit-learn, Apache Spark ML, Facebook FAISS, NMSLib, Facebook Prophet, OpenCV
ML Fairness, XAI	LIME, Anchor, SHAP, Alibi, eli5, IBM AIF360, IBM AIX360, Facets
NLP	Hugging Face Tokenizers & Transformers, spaCy, NLTK, Gensim, Apache OpenNLP
Reinforcement Learning	Anyscale RLlib, OpenAI Gym, AnyLogic Simulation Environment
Distributed Computing	Anyscale Ray, Apache Spark, Apache Hive, Apache Hadoop
MLOps	MLflow, DVC, Apache Airflow, Apache Oozie, Docker
Visual Analytics/Observability	Tableau, Kibana, Grafana, Prometheus
Cloud Services	Amazon AWS, Google GCP, MSFT Azure, IBM Cloud, Databricks, SAS Enterprise
Streaming Engines	Apache Kafka, Apache Spark Streaming, Cloud PubSub
Discovery/Storage	Elasticsearch Stack, Apache Solr, MongoDB, Apache Cassandra, Redis, PostgreSQL, MySQL, Neo4J

Languages	Python, Scala, Java, R, SQL, JS, D3, Node, HTML, CSS, Markdown, C, C++, ARM
Operating Systems (OS)	Linux (Ubuntu, CentOS, Fedora, Debian), MacOS, Windows
Developer Environments	Jupyter, Colab, Zeppelin, RStudio, IntelliJ, Eclipse, PyCharm, VSCode
Compilers/Build Tools	Maven, SBT, Bazel, GCC, Make
GitOps, CI/CD	Git, Perforce, Clearcase, SVN, PVCS, Travis CI, Jenkins, GoCD