# *ARI KAMLANI*

***Principal Data Scientist, ML Engineer, Technology Strategist***

*Manhattan, NY*

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Accomplished AI & Machine Learning (ML) centric professional skilled in leading strategic early-stage and large-scale research project initiatives, aligning technology success and delivery with business strategy objectives. Growth-focused cross-functional technical leader with expertise spanning machine intelligence research and strategy, scalable algorithm and infrastructure development, managing partner relationships, and designing workshop instructional programs. Possess advanced experience within the context of Responsible AI across multiple domains, in both classical machine intelligence and deep learning approaches, creating solutions within Natural Language (NLP), Computer Vision (CV), and Reinforcement Learning (DRL) via Simulation Modeling.

## EXPERIENCE

**ThoughtWorks | Manhattan, NY** *Sep 2018 – Jan 2020*

*Principal Data Scientist – Professional Services (PS)*

Shape portfolio offerings and capabilities in machine intelligent solutions and infrastructure, accelerate business opportunities per early-stage inbound pursuits, and co-lead numerous discovery and design workshop sessions

- Led strategic developments in natural language enterprise intranet search information retrieval (IR), ranking user queries incorporating query disambiguation, semantic embedding vector analysis, and entity linking, accompanied with Content Governance monitoring and annotation tooling for new onboarded content
- Developed classical and deep learning contextual NLP document topic and multi-label classification models incorporating coreference resolution and semantic concept matching to reduce ambiguity and false detection rates within home mortgage loan claims, legal case briefs, and police misconduct allegation complaints
- Optimized supply chain lubricant distributor inventory stock replenishment decision modeling via demand forecasting of safety stock with truck packing and delivery optimization solver constraints

**Pathmind (formerly Skymind) | San Francisco, CA** *May 2017 – Oct 2019*

*Deep Learning Engineer Consultant – Solutions Architecture*

Create and champion products per Deep Reinforcement Learning (Pathmind) via (AnyLogic, Ray, RLlib) decision sequence modeling, Deep Learning for Java (DL4J) algorithm suite, and Machine Infrastructure Platform (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 a conversational dialogue agent in transitioning from an 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 (JPMC) | Manhattan, NY** *Nov 2017 – Aug 2018*

*Data Scientist – Digital Intelligence, Consumer and Community Banking (CCB)*

Strengthen the consumer personalization experience, providing scalable recommended insights via Apache Spark for *Chase Products and Services* across the full regulated and governed modeling lifecycle

- Crafted and developed scalable implicit machine intelligent ranking recommendation tuned models for *Chase Ultimate Rewards* encompassing customer redemptions and spending propensity patterns
- Partnered with line of businesses (LOB) to deliver personalized insights, launching and monitoring deployed Chase card acquisition FOMO message underwriting and targeted *Ad spending-based Campaigns*
- Improved the suggestive *Nudges* for *Savings Acquisition and Engagement* towards customer financial health based on custom neighborhood models at distributive scale

**Techstars | Manhattan, NY** *July 2017 – Oct 2017*

*Technologist in Residence (TIR) – Venture Accelerator, IOT Division*

Act as an advisor to several seed entrepreneurial startup ventures in advancing their product pilot IoT & M2M designs to scale for their next round of funding

- Progressed startup venture product ML roadmap offerings, improving solutions to accelerate the execution across multiple concurrent customer pilots and reduce technology and performance bottleneck pain points
- Functioned as an advisor in systems architecture, benchmarking and scaling their existing solution with more modern distributed and low latency data technology computational solutions (Apache Spark, Apache Kafka)
- Led technical venture mentoring and brainstorming sessions in technology adoption and design hurdles

**Otto LLC (formerly Tyto Life) | San Mateo, CA** *Mar 2017 – Jun 2017*

*Data Scientist & Engineering Advisor/Consultant – Product Division*

Head the design, data acquisition, measurement, and pedestrian pattern detection for the keyless secure door access control in residential and corporate environments

- Developed non-linear Kalman Filters to denoise RF sensory inputs (BLE, Radar) for localization tracking and machine intelligent detection algorithms for pedestrian access control via off-device training (Python) and on-device deployment firmware (C) via ARM Cortex-M CMSIS DSP
- Performed aggregate statistical analysis insights, improving factory unit yield production and productivity rates

**Inria Research Institute | Sophia Antipolis, France** *Jan 2016 – Apr 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

- Applied both traditional computer vision and deep learning CNN architectures per semantic segmentation classification and offline ontology event activity scene understanding recognition representations for analysis
- Achieved enhancements to ontology event scenario recognition models resulting in improved accuracy tracking detection, reducing false positives via accounting for relaxed temporal constraints and prior contextual states
- Improved object detection recognition outcomes via model architecture fine-tuning and optimization

**Nagra Kudelski Group | San Francisco, CA** *Sep 2012 – May 2015*

*Software Expert – Group Innovation & Incubation Research Team*

Advance Technology and Application Innovation for business units, pitching new special project research directives to the executive board, in addition to researching & prototyping solutions for product roadmap feasibility and adoption for further portfolio value-add

- Initiated proposals per Intellectual Property (IP), creation of patents, and formation of new business units
- Researched and formed new strategic partner relationships to strengthen Digital Media and Public Access sector state-of-the-art technology and data-centric advancements
- Led initiatives to create new business and revenue opportunities around low-cost RFID BAP long-range pedestrian distance (300m+) detection and localization pilots in stadiums, theme parks, and ski resorts

**Prior Work Experiences**

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

## PROFESSIONAL AFFILIATIONS

- Manning Publications, Content Advisor and Reviewer *Apr 2020 – Present*
- The Institute for Ethical AI & Machine Learning, Contributing Member *Oct 2019 – Present*
- Rutgers Center of Innovation Education Big Data Program, Advisory Board Member *Oct 2018 – Jan 2020*

## PATENTS

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

## EDUCATION AND CREDENTIALS

### Education

- M.S. Data Science, Data ScienceTech Institute (Paris, France) – Course Credits Forward *Oct 2015 – May 2016*
- B.S. Electrical Engineering (EE), Lehigh University (Bethlehem, PA) – Degree Received *Aug 1995 – May 1999*

### Certifications

- Design Thinking, Rutgers Center for Innovation Education (New Brunswick, NJ) *June 2019*
- Big Data Strategy, Rutgers Center for Innovation Education (New Brunswick, NJ) *May 2019*
- Data Science Immersive Bootcamp, Galvanize (San Francisco, CA) *Jun 2016 – Aug 2016*

## TECHNICAL SKILLS

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| **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 |
| **Machine Learning Frameworks**: | TensorFlow, PyTorch, Keras, DL4J, ONNX, Scikit-learn, Facebook FAISS, NMSLib, FBProphet, Hugging Face Tokenizers & Transformers, spaCy, NLTK, Gensim, OpenNLP, Spark NLP, OpenCV, RISELab RLlib, OpenAI Gym |
| **MLOps**: | MLflow, DVC, Apache Airflow, Apache Oozie, Docker |
| **Visual Analytics**: | 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 |
| **Distributed Computing**: | RISELab Ray, Apache Spark, Apache Hive, Apache Hadoop |
| **Discovery/Storage**: | Elasticsearch (ELK), Apache Solr, MongoDB, Apache Cassandra, Redis, PostgreSQL, MySQL, Neo4J |
| **Compilers/Build Tools:** | Maven, SBT, Bazel, GCC, Make |
| **GitOps, CI/CD**: | Git, Perforce, Clearcase, SVN, PVCS, Travis CI, Jenkins, GoCD |
| **Project Management**: | Jira, Pivotal Tracker, Basecamp, Notion, Bugzilla, Trello, Doors |