SKYMIND

COMPANY PROFILE

DEEP LEARNING FOR ENTERPRISE

skymind


USERS
ACTIVITY
BIG DATA
INFORMATION
PRODUCT
BIG DATA
ANALYTIC
SUPER HUMAN
MACHINE
PERCEPTION
SOLUTIONS
PRODUCTS AND SERVICES
AI
INSIGHTS

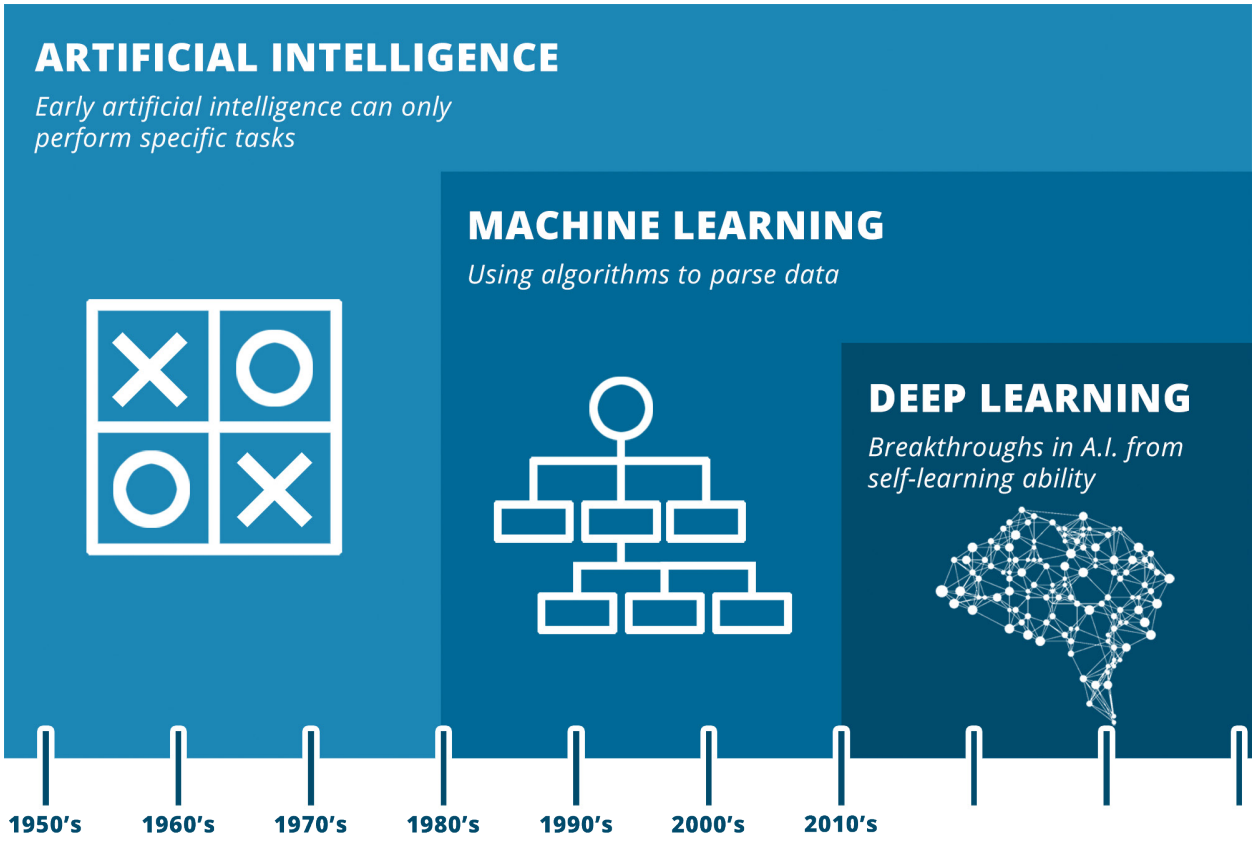
Data is meaningless without tools that help you make decisions. Unfortunately, many companies are unable to extract value and insight from their data. AI will change that, and deep learning is at the forefront of AI. With production-grade deep learning tools, enterprise teams can learn from their data more quickly, responding to the world in real-time.

"TURNING DATA INTO VALUE"

Recent breakthroughs in big data analysis and AI have improved our ability to build neural networks that can process massive amounts of raw and unlabeled data. Because of this, we can achieve accuracy higher than ever before, a revolution that will sweep across many industries. Year after year, deep learning is pushing AI into new territory, breaking accuracy records and leading to new products.

DEEP LEARNING

MACHINES THAT PERCEIVE THE WORLD



Deep learning is the fastest-growing and most advanced field in machine learning. It uses deep neural networks (DNNs) to find patterns in unstructured data such as images, sound, video and text.

Deep learning has achieved record breaking performance on widely used datasets such as MNIST and CIFAR-10. In many competitions, the only algorithm deep learning competes against is itself.

USE CASES

Deep learning is used to solve the hardest problems i n machine intelligence. This includes machine vision for self-driving cars, fraud mitigation, risk analytics and algorithmic trading.

WHAT IS SKYMIND?

WE MAKE DEEP LEARNING ACCESSIBLE TO ENTERPRISES

ABOUT US

Skymind is tackling some of the most advanced problems in data analysis and machine intelligence. We offer state-of-the-art, flexible, scalable deep learning for enterprise. Deep learning is becoming an important tool for natural-language processing (NLP), computer vision, database predictions, pattern recognition, speech recognition, predictive analytics and fraud detection.

We support Deeplearning4j.org and ND4J.org, the only commercial-grade, open-source, distributed deep-learning library written for Java and Scala. Integrated with Hadoop and Spark, DL4J is specifically designed to run in business environments on distributed GPUs and CPUs.

KEY PERSONNEL

CHRIS NICHOLSON

CEO

Chris is the founder and CEO of Skymind. In a prior life, he was a journalist for over 10 years and the Head of Communications & Recruiting for Future Advisor.

JOSH PATTERSON

HEAD OF FIELD ENGINEERING

Josh was employee #34 at Cloudera, working his way up to Principal Solutions Architect. He was responsible for bringing Hadoop into the smart grid.

EDWARD JUNPRUNG

ANALYTICS

Before joining Skymind, Edward headed growth at a Y Combinator startup called Celery (acquired by Indiegogo).

SHAWN TAN

BUSINESS DEVELOPMENT

Shawn brings more than 15 years of technology industry experience to the Skymind team. He has spent much of his career building or transforming businesses.

ALEX BLACK

DEEP LEARNING ENGINEER

Alex graduated from Monash University with a degree in computer science. He has over 5 years of experience in AI.

DAEHYUN KIM

DEEP LEARNING ENGINEER

Daehyun has over 8 years of experience building deep learning solutions for computer vision. He was previously director of research and development at Samsung SDS.

ADAM GIBSON

CTO

Adam is the founder of Skymind and creator of Deeplearning4j. Adam has over 7 years of experience building deep learning solutions.

NATALIE CLEAVER

HEAD OF OPERATIONS

Prior to Skymind, Natalie was an Assistant Professor at UC Berkeley and Fulbright Fellow. She holds a PhD in Comparative Literature from UC Berkeley.

SHU WEI GOH

STRATEGY

In his 10 years in consulting, Dr. Goh has worked in various technical management roles. He directs Skymind's products, user experience, and pricing.

MELANIE WARRICK

DEEP LEARNING ENGINEER

Melanie has spent more than 8 years working with Java and Python on machine learning problems. She was previously a data scientist at Change.org.

SAMUEL AUDET

DEEP LEARNING ENGINEER

Samuel holds a PhD in computer vision and is the author of the open source libraries JavaCPP and JavaCV.

SUSAN ERALY

DEEP LEARNING ENGINEER

Before joining Skymind, Susan worked as an engineer at Hewlett-Packard, ARM, and most recently as a senior ASIC engineer at NVIDIA.

OPEN SOURCE

DEMOCRATIZING THE DEEP LEARNING INDUSTRY

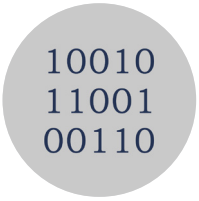
*At Skymind, we believe **collaborative and transparent contributions** are key to making deep learning mainstream. All Skymind products, such as DL4J, ND4J, DavaVec, JavaCPP and Arbiter are **100% open-source** and maintained by the most active deep learning community in existence.*

Deeplearning4j

Deeplearning4j is the first commercial-grade, open-source, distributed deep-learning library written for Java and Scala. Integrated with Hadoop and Spark, DL4J is specifically designed to be used in business environments on distributed GPUs and CPUs.

ND4J: Numpy for the JVM

ND4J is a scientific computing library for the JVM. It's Numpy for Java and Scala. It is built for efficiency in production environments, not as a research tool, so routines are designed to run fast with minimum RAM requirements.

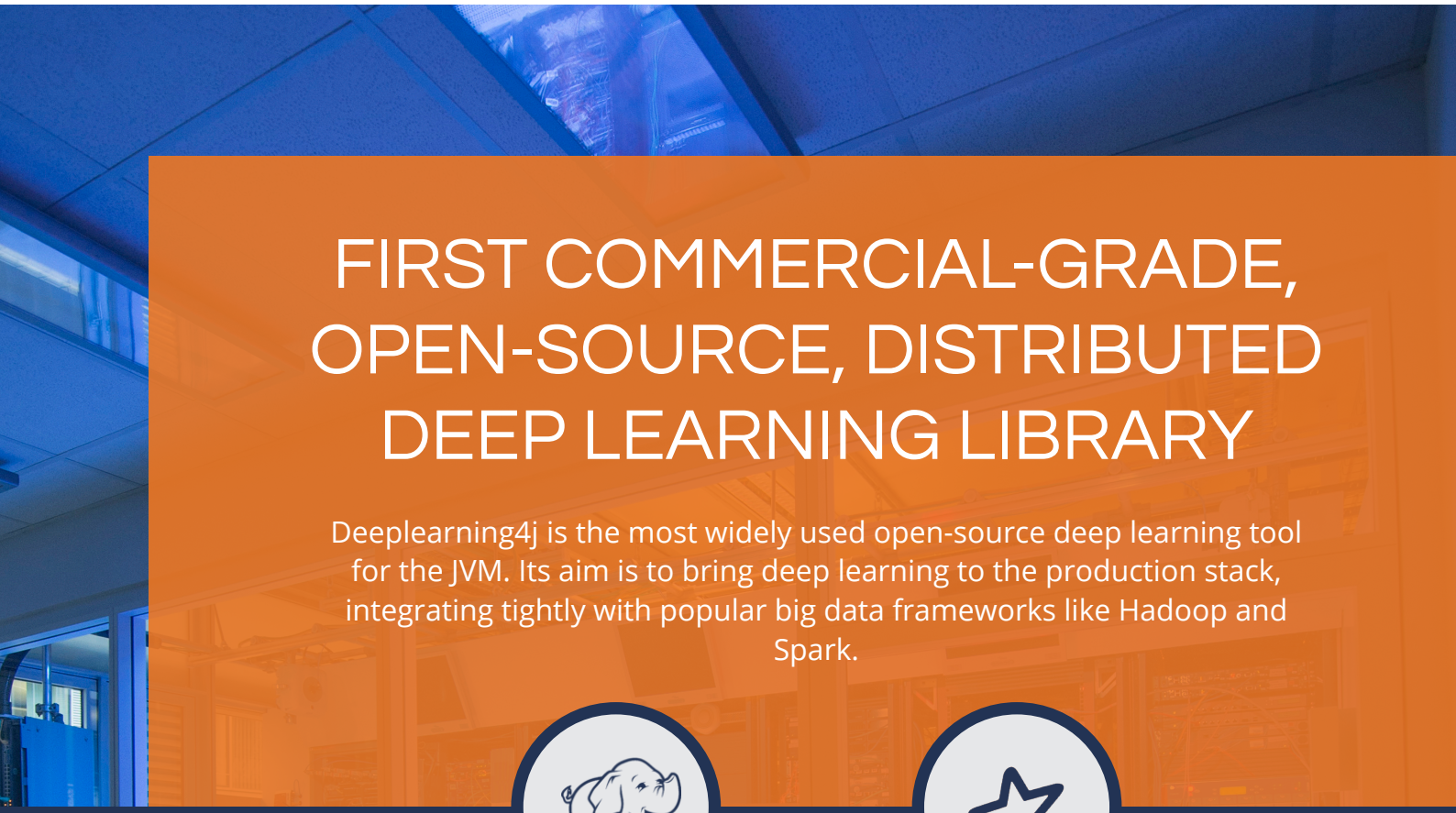


DataVec

DataVec is an Apache 2.0 licensed open-source tool for machine learning ETL (Extract, Transform, Load) operations. The goal of DataVec is to transform and preprocess raw data into usable vector formats across machine learning tools.

Arbiter

A tool dedicated to evaluating and tuning machine learning models. Part of the DL4J Suite of Machine Learning / Deep Learning tools for the enterprise.



FIRST COMMERCIAL-GRADE, OPEN-SOURCE, DISTRIBUTED DEEP LEARNING LIBRARY

Deeplearning4j is the most widely used open-source deep learning tool for the JVM. Its aim is to bring deep learning to the production stack, integrating tightly with popular big data frameworks like Hadoop and Spark.

Skymind's suite of tools takes advantage of the latest distributed computing frameworks including Hadoop and Apache Spark to improve model training.

Deep learning excels at identifying patterns in unstructured data. This includes images, sound, time series and text.

SOUND TEXT TIME SERIES IMAGE VIDEO

We're often asked why we chose to implement an open-source deep learning project in Java, when so much of the deep-learning community is focused on Python. And the answers are speed and security for enterprise deployment.

WRITE ONCE, RUN EVERYWHERE

Java's popularity is only strengthened by its ecosystem. Most enterprises use Java or a JVM-based big data system. Hadoop is implemented in Java; Spark runs within Hadoop's Yarn runtime; libraries like Akka made building distributed systems for Deeplearning4j feasible.

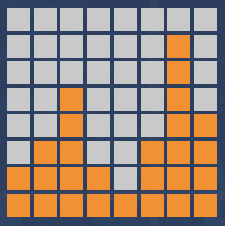
CERTIFIED ON CLOUDERA AND HORTONWORKS

INTEGRATING SEAMLESSLY WITH NVIDIA, INTEL AND IBM

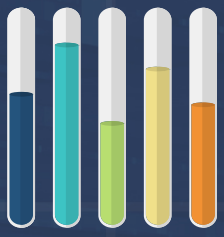
ADVANTAGES

FEATURE RICH, FAST, ACCURATE AND EASY TO DEPLOY

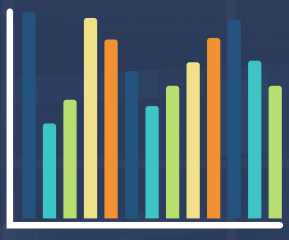
24/7 SUPPORT BY
OUR COMMUNITY



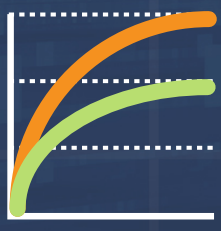
INCLUDES ALL MAJOR
NEURAL NETS



SCALABLE



ULTRA FAST
PERFORMANCE



HIGH ACCURACY

COMPATIBLE WITH
ALL MAJOR SYSTEMS

OUR DEEP LEARNING ECOSYSTEM

DEVELOPING, TRAINING AND TUNING YOUR MODEL

SKIL®

THE SKYMIND INTELLIGENCE LAYER - DEEP LEARNING IN PRODUCTION

SKIL is Skymind's proprietary enterprise distribution. It contains all of the necessary components and dependencies to deploy to production Deeplearning4j as well as the proprietary vendor integrations and open source components.

CORE COMPONENTS

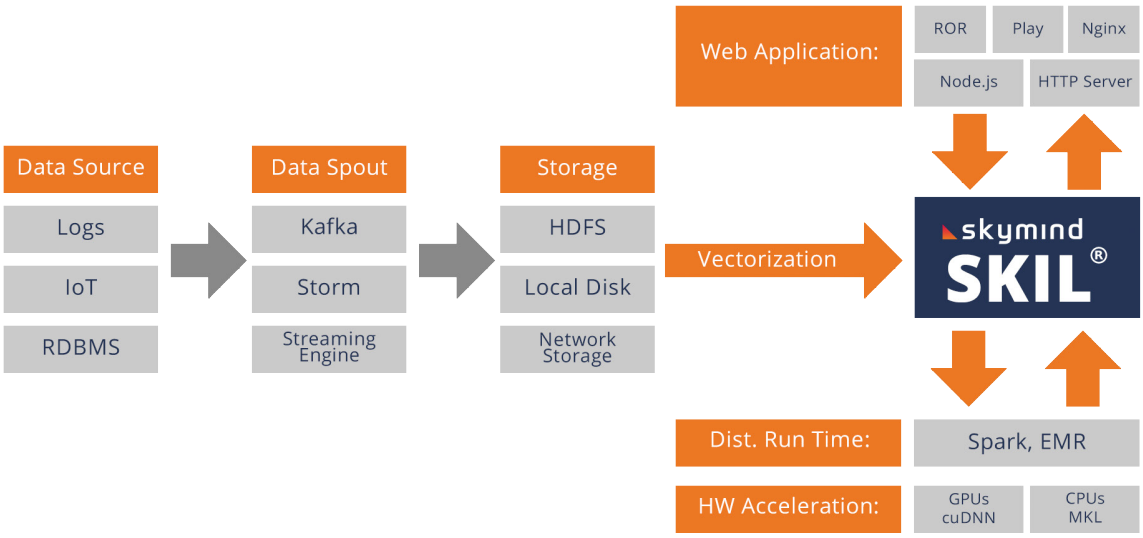
Core components are composed of our full suite of open-source libraries such as Deeplearning4J, ND4J, DataVec, JavaCPP and LibND4J. This is everything you need to build a deep learning application.

VENDOR INTEGRATIONS

Vendor Integrations are separate proprietary pieces of software that we bundle with our enterprise distribution. This includes Hadoop Distributions, Connectors and Chip/BLAS integrations.

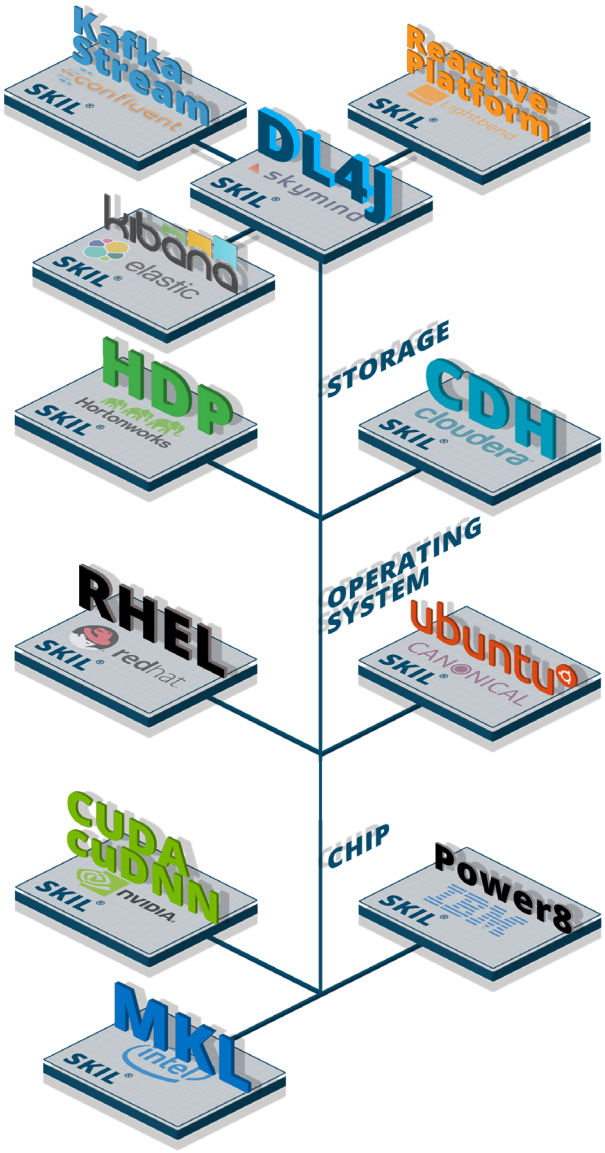
REFERENCE ARCHITECTURE

SKYMIND INTELLIGENCE LAYER (SKIL) WORKS NATIVELY WITH THE JVM STACK.



COMPATIBLE TECHNOLOGY

Hadoop	Spark
Flink	Hive
Cassandra	Zookeeper
Mesos	Kafka
Storm	Openstack



VENDOR INTEGRATION

HADOOP VENDORS

COMPANY	PRODUCTS
Cloudera	CDH
Hortonworks	HDP

CHIP VENDORS

COMPANY	PRODUCTS
Intel	X86, MKL, DAAL, TAP
NVDIA	cuDNN, CUDA,
IBM	Power8 Chip, ESSL

OTHER SOFTWARE VENDORS

COMPANY	PRODUCTS
DataFellas	Spark Notebook
Elasticsearch	Kibana
Red Hat	Red Hat Enterprise Linux
Canonical	Ubuntu, Juju Charm
Confluent	Kafka Streams
Lightbend	Reactive Platform
Pivotal	Cloud Native
KNIME	KNIME Analytics Platform
RapidMiner	RM Server

SERVICES

BUILDING ENTERPRISE SOLUTIONS WITH DEEP LEARNING

Skymind's deep learning engineers offer expert, on-demand enterprise support for our record-breaking tools, including DL4J, the first commercial-grade, distributed deep learning library designed for business environments and the JVM. We empower your team to customize deep learning solutions that grow and adapt with your business.

01 **PROOF OF CONCEPT**
Skymind will work with your team to architect a solution from pilot to production.

02 **CONSULTATION**
Technical guidance at any stage of development. This includes model development, training and tuning.

03 **CORPORATE TRAINING**
On-premise deep learning training hosted by a Skymind engineer. The focus is how to use deep learning to solve a specific business problem.

04 **ENTERPRISE SUPPORT**
On-demand, 24/7 support staffed by deep learning engineers distributed worldwide.

05 **CERTIFICATION**
Offer your clients deep learning solutions by becoming a Skymind certified systems integrator.

06 **WORKSHOPS**
Hands on workshop hosted by Skymind. We show you how to deploy deep learning to production.

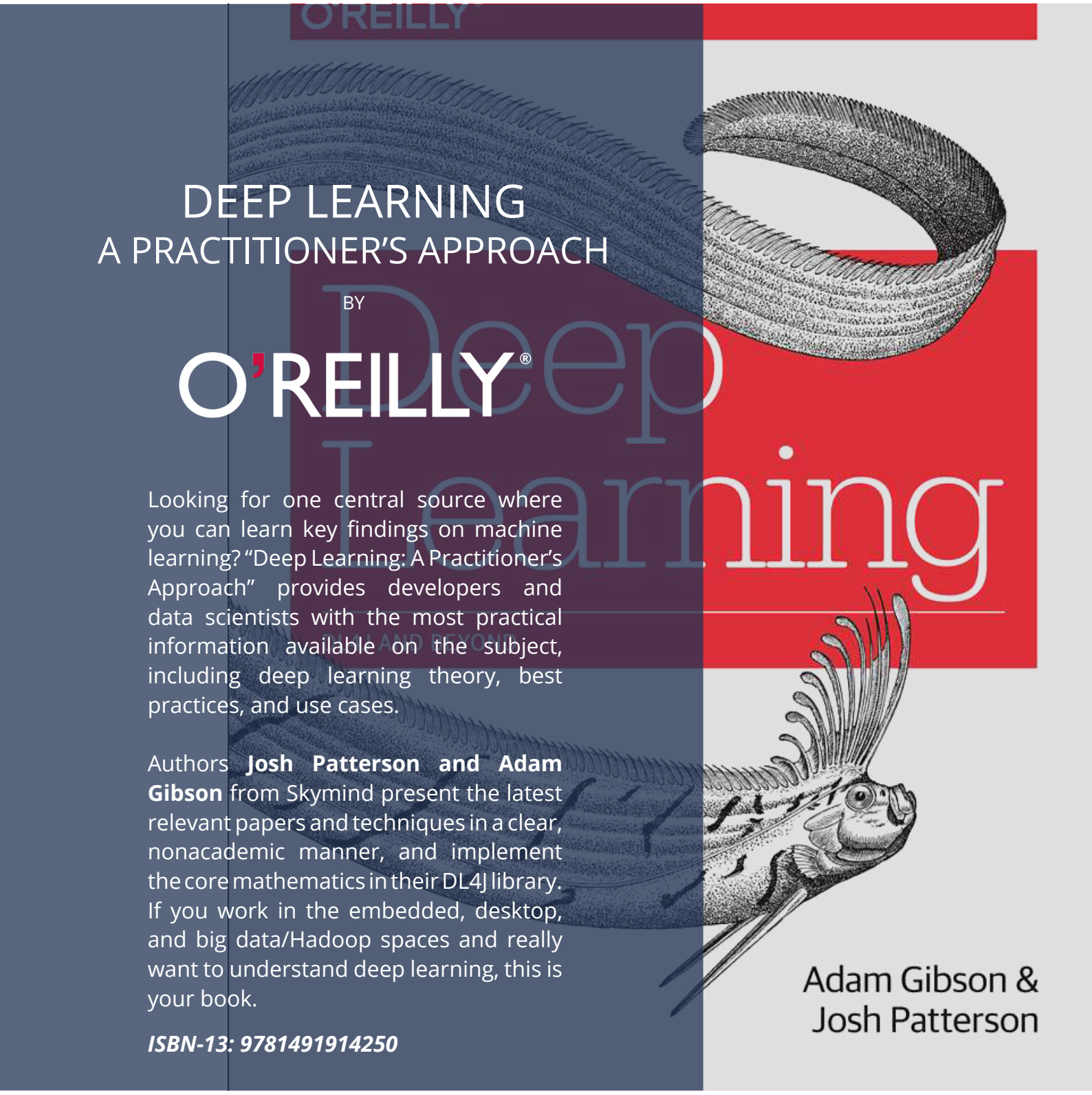
SKYMIND UNIVERSITY

Machine learning is one of the fastest-growing and most exciting fields in technology, and deep learning represents the state of the art. Through Skymind University, you can master our deep learning technologies with our lab-intensive, real-world training.

Skymind University starts with the practical, teaching you what you need to know to start solving real world problems. Our program covers everything from data pipelines and deep learning model development to deploying deep learning to production. Whether you're updating your expertise or building brand new skills, this is where it all begins.

GET CERTIFIED

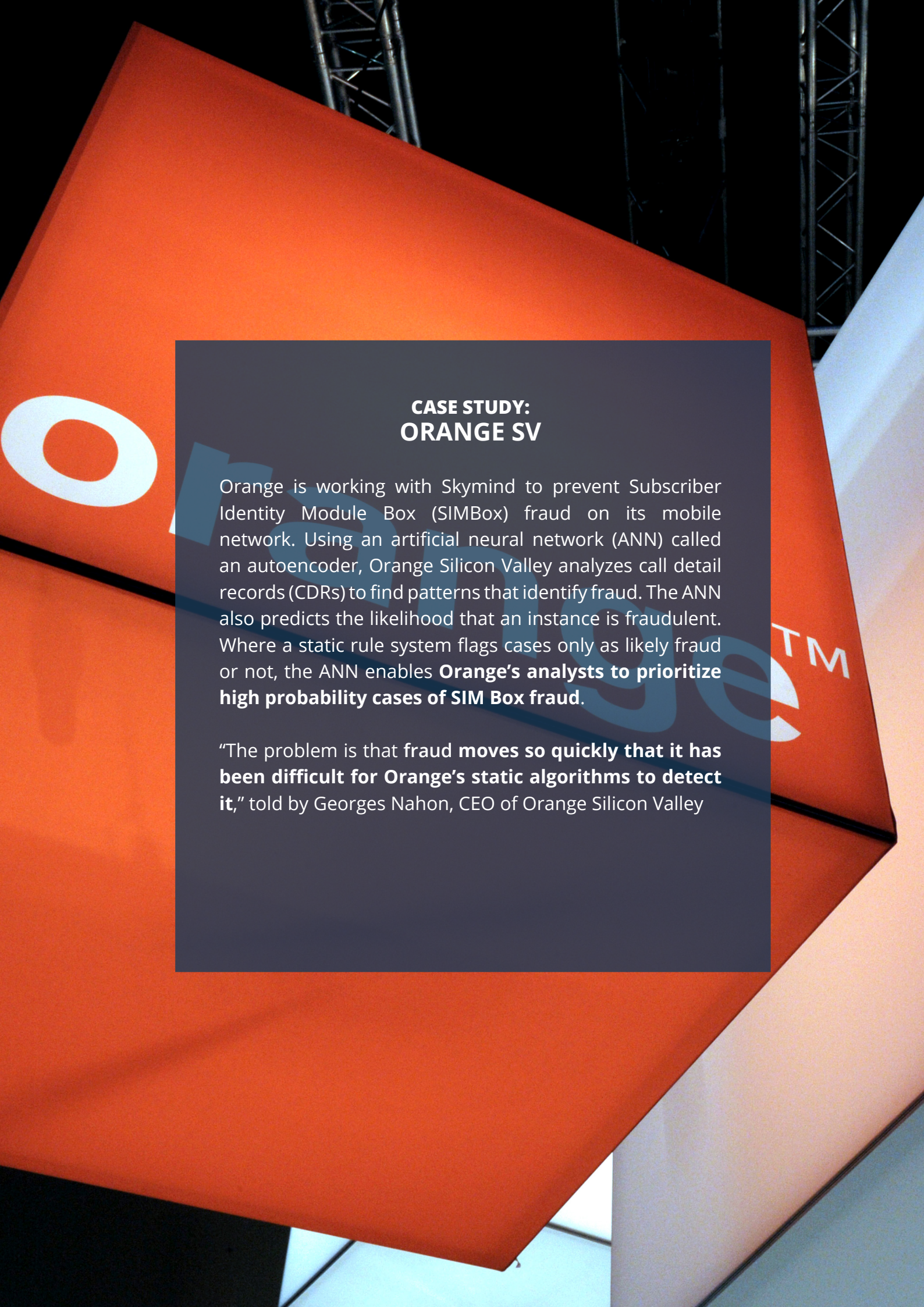
Our certification program helps professionals demonstrate their skills and credentials and build their careers. It gives employers a meaningful way to develop qualified professionals and also allows entrepreneur to build amazing products using deep learning technology.



Looking for one central source where you can learn key findings on machine learning? "Deep Learning: A Practitioner's Approach" provides developers and data scientists with the most practical information available on the subject, including deep learning theory, best practices, and use cases.

Authors **Josh Patterson and Adam Gibson** from Skymind present the latest relevant papers and techniques in a clear, nonacademic manner, and implement the core mathematics in their DL4J library. If you work in the embedded, desktop, and big data/Hadoop spaces and really want to understand deep learning, this is your book.

ISBN-13: 9781491914250



CASE STUDY:
ORANGE SV

Orange is working with Skymind to prevent Subscriber Identity Module Box (SIMBox) fraud on its mobile network. Using an artificial neural network (ANN) called an autoencoder, Orange Silicon Valley analyzes call detail records (CDRs) to find patterns that identify fraud. The ANN also predicts the likelihood that an instance is fraudulent. Where a static rule system flags cases only as likely fraud or not, the ANN enables **Orange's analysts to prioritize high probability cases of SIM Box fraud**.

"The problem is that **fraud moves so quickly that it has been difficult for Orange's static algorithms to detect it**," told by Georges Nahon, CEO of Orange Silicon Valley

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