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3. [Automating Large-Scale Data Quality Verification \(Paper\)](#) [Amazon](#)
4. [Meet Hodor — Gojek's Upstream Data Quality Tool](#) [Gojek](#)
5. [Reliable and Scalable Data Ingestion at Airbnb](#) [Airbnb](#)
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7. [Improving Accuracy By Certainty Estimation of Human Decisions, Labels, and Raters \(Paper\)](#)

Facebook

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1. [Zipline: Airbnb's Machine Learning Data Management Platform](#) Airbnb
2. [Sputnik: Airbnb's Apache Spark Framework for Data Engineering](#) Airbnb
3. [Introducing Feast: an open source feature store for machine learning \(Code\)](#) Gojek
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5. [Unbundling Data Science Workflows with Metaflow and AWS Step Functions](#) Netflix

Data Discovery

1. [Amundsen — Lyft's Data Discovery & Metadata Engine](#) Lyft
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3. [Using Amundsen to Support User Privacy via Metadata Collection at Square](#) Square
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8. [How We Improved Data Discovery for Data Scientists at Spotify](#) Spotify
9. [How We're Solving Data Discovery Challenges at Shopify](#) Shopify

Classification

1. [High-Precision Phrase-Based Document Classification on a Modern Scale \(Paper\)](#) LinkedIn
2. [Chimera: Large-scale Classification using Machine Learning, Rules, and Crowdsourcing \(Paper\)](#) WalmartLabs
3. [Large-scale Item Categorization for e-Commerce \(Paper\)](#) DianPing , eBay
4. [Large-scale Item Categorization in e-Commerce Using Multiple Recurrent Neural Networks \(Paper\)](#) NAVER
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8. [How We Built the Good First Issues Feature](#) GitHub
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10. [Testing Firefox More Efficiently with Machine Learning](#) Mozilla
11. [Using ML to Subtype Patients Receiving Digital Mental Health Interventions \(Paper\)](#) Microsoft

12. [Prediction of Advertiser Churn for Google AdWords \(Paper\)](#) Google
13. [Scalable Data Classification for Security and Privacy \(Paper\)](#) Facebook

Regression

1. [Using Machine Learning to Predict Value of Homes On Airbnb](#) Airbnb
2. [Using Machine Learning to Predict the Value of Ad Requests](#) Twitter
3. [Open-Sourcing Riskquant, a Library for Quantifying Risk \(Code\)](#) NetFlix

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1. [Forecasting at Uber: An Introduction](#) Uber
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3. [Transforming Financial Forecasting with Data Science and Machine Learning at Uber](#) Uber
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Recommendation

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1. [Amazon.com Recommendations: Item-to-Item Collaborative Filtering \(Paper\)](#) Amazon
2. [Temporal-Contextual Recommendation in Real-Time \(Paper\)](#) Amazon
3. [Recommending Complementary Products in E-Commerce Push Notifications \(Paper\)](#) Alibaba
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5. [TPG-DNN: A Method for User Intent Prediction with Multi-task Learning \(Paper\)](#) Alibaba
6. [Session-based Recommendations with Recurrent Neural Networks \(Paper\)](#) Telefonica
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13. [Netflix Recommendations: Beyond the 5 stars \(Part 1 \(Part 2\)\)](#) Netflix
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26. [The Evolution of Kit: Automating Marketing Using Machine Learning](#) Shopify
27. [Using Machine Learning to Predict what File you Need Next \(Part 1\)](#) Dropbox
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2. [Why Do People Buy Seemingly Irrelevant Items in Voice Product Search?](#) (Paper) Amazon
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Embeddings

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2. [Embeddings@Twitter](#) [Twitter](#)
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Natural Language Processing

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Sequence Modelling

1. [Practice on Long Sequential User Behavior Modeling for Click-Through Rate Prediction \(Paper\)](#) Alibaba
2. [Search-based User Interest Modeling with Sequential Behavior Data for CTR Prediction \(Paper\)](#) Alibaba
3. [Deep Learning for Electronic Health Records \(Paper\)](#) Google
4. [Deep Learning for Understanding Consumer Histories \(Paper\)](#) Zalando
5. [Continual Prediction of Notification Attendance with Classical and Deep Networks \(Paper\)](#) Telefonica
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1. [Categorizing Listing Photos at Airbnb](#) Airbnb
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3. [Powered by AI: Advancing product understanding and building new shopping experiences](#) Facebook
4. [Creating a Modern OCR Pipeline Using Computer Vision and Deep Learning](#) Dropbox
5. [How we Improved Computer Vision Metrics by More Than 5% Only by Cleaning Labelling Errors](#) Deepomatic
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7. [Machine Learning-based Damage Assessment for Disaster Relief \(Paper\)](#) Google
8. [RepNet: Counting Repetitions in Videos \(Paper\)](#) Google
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10. [How Disney Uses PyTorch for Animated Character Recognition](#) Disney
11. [Image Captioning as an Assistive Technology \(Video\)](#) IBM
12. [AI for AG: Production machine learning for agriculture](#) Blue River
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Reinforcement Learning

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1. [Deep Reinforcement Learning for Sponsored Search Real-time Bidding \(Paper\)](#) Alibaba
2. [Dynamic Pricing on E-commerce Platform with Deep Reinforcement Learning \(Paper\)](#) Alibaba
3. [Budget Constrained Bidding by Model-free Reinforcement Learning in Display Advertising \(Paper\)](#) Alibaba
4. [Productionizing Deep Reinforcement Learning with Spark and MLflow](#) Zynga
5. [Deep Reinforcement Learning in Production Part1 Part 2](#) Zynga
6. [Building AI Trading Systems](#) Denny Britz

Anomaly Detection

1. [Detecting Performance Anomalies in External Firmware Deployments](#) Netflix
2. [Detecting and Preventing Abuse on LinkedIn using Isolation Forests \(Code\)](#) LinkedIn
3. [Preventing Abuse Using Unsupervised Learning](#) LinkedIn
4. [The Technology Behind Fighting Harassment on LinkedIn](#) LinkedIn

5. [Uncovering Insurance Fraud Conspiracy with Network Learning \(Paper\)](#) Ant Financial
6. [How Does Spam Protection Work on Stack Exchange?](#) Stack Exchange
7. [Auto Content Moderation in C2C e-Commerce](#) Mercari
8. [Blocking Slack Invite Spam With Machine Learning](#) Slack
9. [Cloudflare Bot Management: Machine Learning and More](#) Cloudflare
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11. [Using Anomaly Detection to Monitor Low-Risk Bank Customers](#) Rabobank

Graph

1. [Building The LinkedIn Knowledge Graph](#) LinkedIn
2. [Retail Graph — Walmart's Product Knowledge Graph](#) Walmart
3. [Food Discovery with Uber Eats: Using Graph Learning to Power Recommendations](#) Uber
4. [AliGraph: A Comprehensive Graph Neural Network Platform \(Paper\)](#) Alibaba
5. [Scaling Knowledge Access and Retrieval at Airbnb](#) Airbnb
6. [Traffic Prediction with Advanced Graph Neural Networks](#) DeepMind
7. [SimClusters: Community-Based Representations for Heterogeneous Recommendations at Twitter \(Paper, Video\)](#)

Optimization

1. [How Trip Inferences and Machine Learning Optimize Delivery Times on Uber Eats](#) Uber
2. [Next-Generation Optimization for Dasher Dispatch at DoorDash](#) DoorDash
3. [Matchmaking in Lyft Line \(Part 1\) \(Part 2\) \(Part 3\)](#) Lyft
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Information Extraction

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2. [Information Extraction from Receipts with Graph Convolutional Networks](#) Nanonets
3. [Using Machine Learning to Index Text from Billions of Images](#) Dropbox
4. [Extracting Structured Data from Templatic Documents \(Paper\)](#) Google
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Weak Supervision

1. [Snorkel DryBell: A Case Study in Deploying Weak Supervision at Industrial Scale \(Paper\)](#) Google
2. [Osprey: Weak Supervision of Imbalanced Extraction Problems without Code \(Paper\)](#) Intel
3. [Overton: A Data System for Monitoring and Improving Machine-Learned Products \(Paper\)](#) Apple
4. [Bootstrapping Conversational Agents with Weak Supervision \(Paper\)](#) IBM

Generation

1. [Better Language Models and Their Implications \(Paper\)](#) OpenAI
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5. [Unit Test Case Generation with Transformers](#) Microsoft

Validation and A/B Testing

1. [The Reusable Holdout: Preserving Validity in Adaptive Data Analysis \(Paper\)](#) Google
2. [Detecting Interference: An A/B Test of A/B Tests](#) LinkedIn
3. [Experimenting to Solve Cramming](#) Twitter
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5. [Enabling 10x More Experiments with Traveloka Experiment Platform](#) Traveloka
6. [Large Scale Experimentation at Stitch Fix \(Paper\)](#) Stitch Fix
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8. [Modeling Conversion Rates and Saving Millions Using Kaplan-Meier and Gamma Distributions \(Code\)](#) Better
9. [Computational Causal Inference at Netflix \(Paper\)](#) Netflix
10. [Key Challenges with Quasi Experiments at Netflix](#) Netflix
11. [Constrained Bayesian Optimization with Noisy Experiments \(Paper\)](#) Facebook
12. [Supporting Rapid Product Iteration with an Experimentation Analysis Platform](#) Curie

Model Management

1. [Runway - Model Lifecycle Management at Netflix](#) Netflix

Efficiency

1. [GrokNet: Unified Computer Vision Model Trunk and Embeddings For Commerce \(Paper\)](#) Facebook

Ethics

1. [Building Inclusive Products Through A/B Testing \(Paper\)](#) LinkedIn
2. [LiFT: A Scalable Framework for Measuring Fairness in ML Applications \(Paper\)](#) LinkedIn

Practices

1. [Practical Recommendations for Gradient-Based Training of Deep Architectures \(Paper\)](#) Yoshua Bengio
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3. [Rules of Machine Learning: Best Practices for ML Engineering](#) Google
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5. [Machine Learning in Production: The Booking.com Approach](#) Booking
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7. [Engineers Shouldn't Write ETL: A Guide to Building a High Functioning Data Science Department](#) Stitch Fix
8. [Beware the Data Science Pin Factory: The Power of the Full-Stack Data Science Generalist](#) Stitch Fix
9. [Successes and Challenges in Adopting Machine Learning at Scale at a Global Bank](#) Rabobank

Fails

1. [160k+ High School Students Will Graduate Only If a Model Allows Them to](#) International Baccalaureate
2. [When It Comes to Gorillas, Google Photos Remains Blind](#) Google
3. [An Algorithm That 'Predicts' Criminality Based on a Face Sparks a Furor](#) Harrisburg University
4. [It's Hard to Generate Neural Text From GPT-3 About Muslims](#) OpenAI
5. [A British AI Tool to Predict Violent Crime Is Too Flawed to Use](#) United Kingdom
6. More in [awful-ai](#)

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