

Case Study: Machine Learning

Madgex extracts value from text with machine learning

A market-leading technology provider rapidly improved candidate and client experiences with an advanced, cost-effective ML Proof of Value.

Madgex is a market-leading career technology provider. Their solutions boost engagement, provide insight and drive revenue for their customers. Operating in 14 countries, they manage more than 500 global brands, including Guardian Jobs and Gumtree Jobs.

Madgex knows and understands online recruitment and is passionate about exploring new solutions in the digital world that leverage state-of-the-art machine learning (ML) on cloud platforms, such as Amazon Web Services (AWS).

The challenge

Madgex sought to develop a tool using ML to augment and enrich job postings, giving them the ability to enhance their products and services. For example, to more accurately and efficiently match the right people to the right jobs or improving both candidate and client experiences.

Typically, job postings contain information, such as job responsibilities, candidate qualifications and benefits included with the job, but these topics are rarely organised in a structured or tabular way. Instead, this information is embedded in paragraphs of text. Madgex wanted to extract concepts and store them in a structured form.

As a trusted AWS ML partner and artificial intelligence (AI) specialist, Madgex engaged Inawisdom (a Cognizant company) to apply their AI expertise and train a set of ML models using Madgex job descriptions, creating a way to identify specific topics, extract relevant information and organise it in a structured way, all within an eight-week timeframe.

The solution

Inawisdom's Discovery as a Service (DaaS) method and AWS ML technologies expedited the project delivery and Proof of Value for

“Inawisdom met all—and exceeded many—of our expectations in delivering against the brief. The project was managed in a professional manner and delivered on time. The Inawisdom team was very responsive to our requests.”

– **Nick Siantonas, Head of Data Products, Madgex**

“The models created by Inawisdom will be used to match users to jobs at scale. We anticipate that there will be a double conversion rate on matched jobs, driving an additional 1 million applications per month if used across all active job listings.”

– **Nick Siantonas, Head of Data Products, Madgex**

Madgex. We applied advanced data science capabilities and techniques—combined with the power and scale of AWS SageMaker—to rapidly scale millions of input documents and generate domain-specific word embeddings for recruitment, delivering highly accurate outcomes.

The project was undertaken in 4 steps:

1. Explore the data
2. Text processing
3. Labeled data generation
4. Training the models

Inawisdom's data scientists worked collaboratively with Madgex to define the problem, investigate the data—including unsupervised clustering—and then built and trained a set of models to compare and contrast performance using different ML techniques.

Business outcomes

Inawisdom's AI and ML expertise, combined with the advances and scale of AWS ML technologies, such as SageMaker BlazingText, rapidly delivered highly accurate results in weeks with an advanced, cost-effective ML Proof of Value.

The results enabled Madgex to reduce millions of documents to essential information, delivering a high level of accuracy (88% and 89%). The outcomes provided Madgex with the opportunity to enhance its products and services for both client and job seeker audiences, improving candidate matches to job postings, increasing retention and candidate conversion rates, and improving candidate and customer experiences.

About Inawisdom

Inawisdom is a leading specialist in Artificial Intelligence (AI) and Machine Learning (ML). We enable customers to rapidly discover and deliver business differentiation from their data assets to drive true value. Inawisdom is an Amazon Web Services (AWS) Premier Consulting Partner and Machine Learning Global Launch Competency Partner, serving global businesses in a broad range of industries, accross UK and EMEA.

About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 185 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us [@Cognizant](https://twitter.com/Cognizant).



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