Independent learning skills are crucial for students' success but are only mastered by a selected few

> I am intimidated by the study material. I don't know where to start learning.

> Insight comes from unexpected links but these links are hard to find.

> I need to learn this skill to take the next step in my career but I am struggling to understand how to use all the free content I can find.

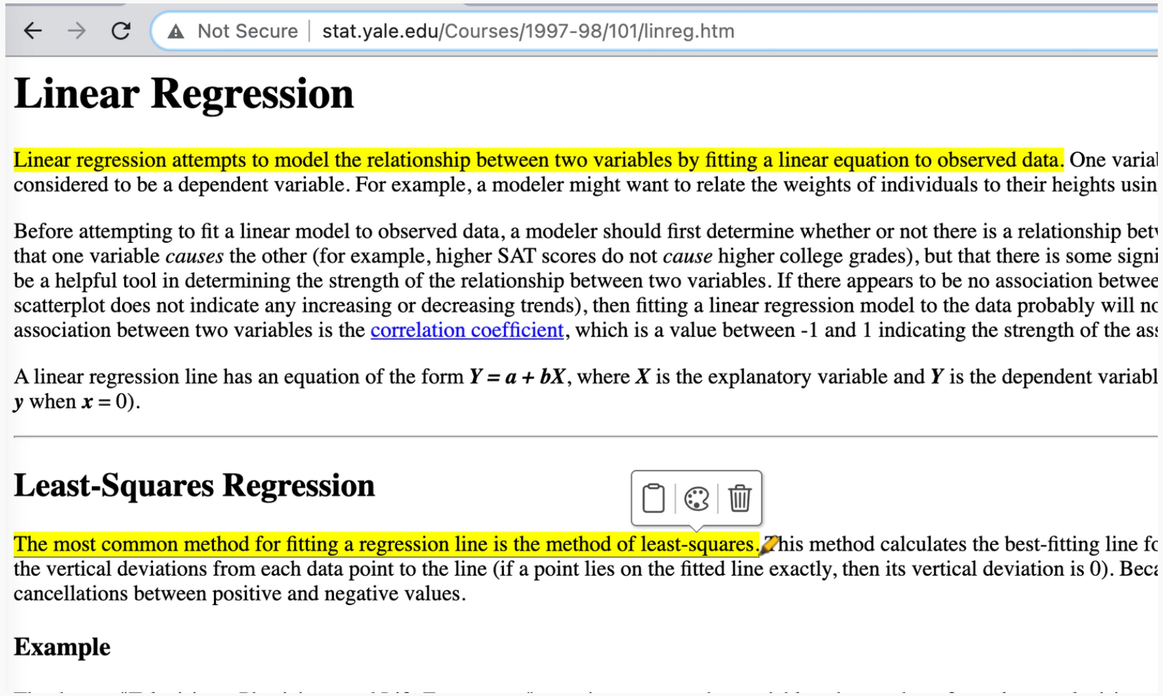
180 million
Learners on MOOC platforms

3%
Completion Rate

12%
Start a second course

Our mission is to give all students the tools and knowledge to master any skill by teaching them how to be a better learner.

ATLAS isn't just 'another flashcard app'



Curate

- Highlight important content
- Generate revision questions

Organize

- Store highlight history
- Organize content with tags

Remember

- Practice study questions
- AI-driven recommendations

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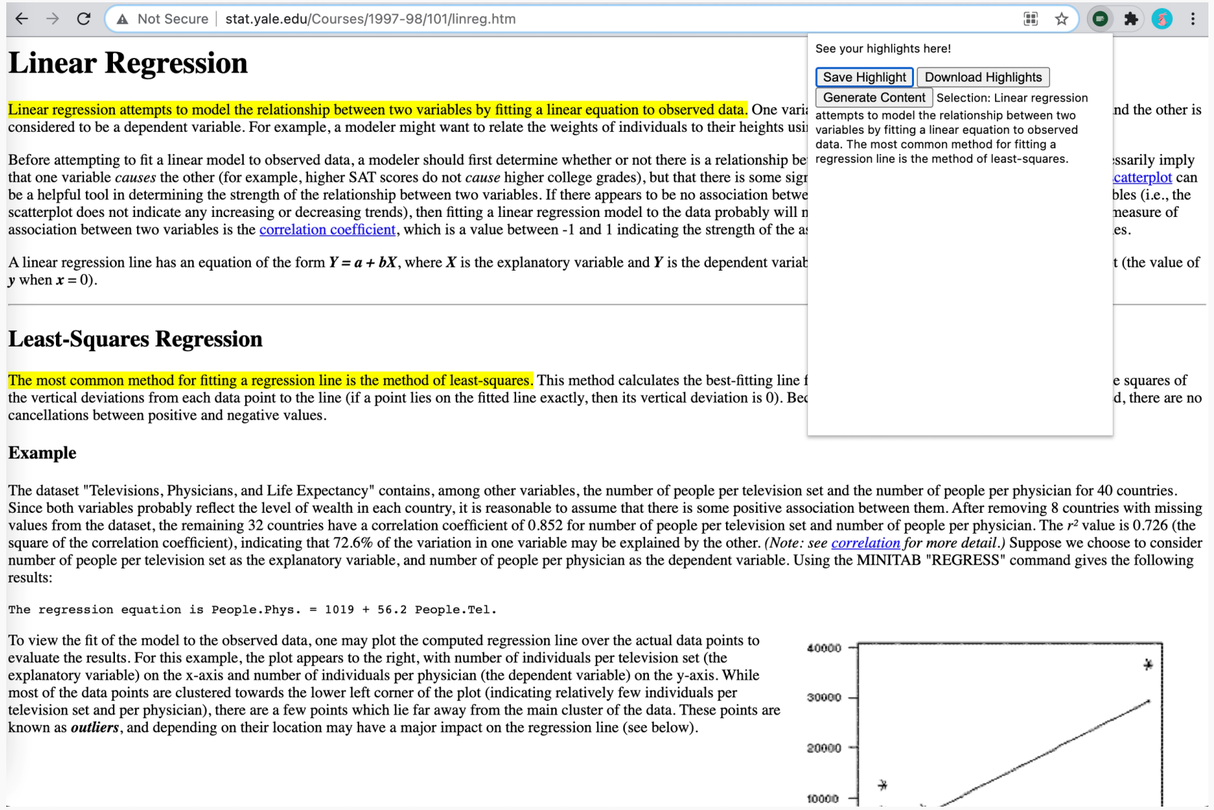

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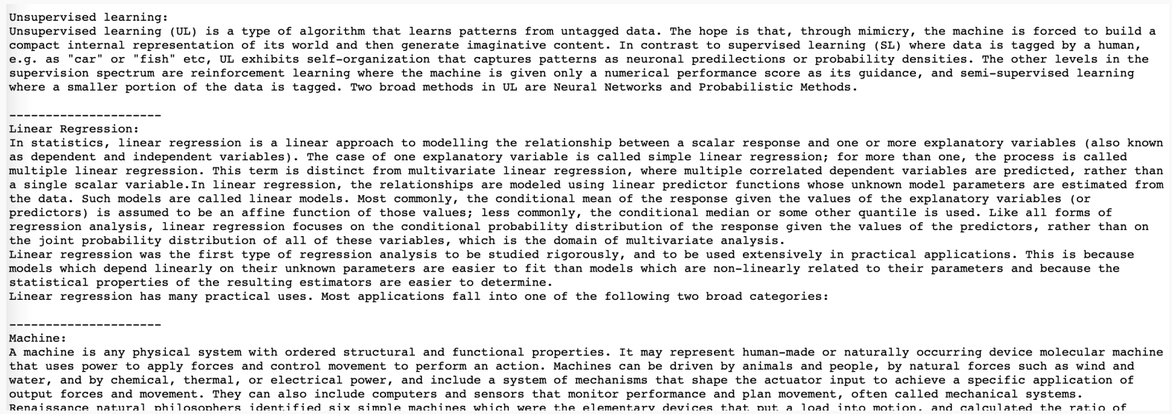

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Unsupervised learning:
Unsupervised learning (UL) is a type of algorithm that learns patterns from untagged data. The hope is that, through mimicry, the machine is forced to build a
compact internal representation of its world and then generate imaginative content. In contrast to supervised learning (SL) where data is tagged by a human,
e.g. as "car" or "fish" etc, UL exhibits self-organization that captures patterns as neuronal predilections or probability densities. The other levels in the
supervision spectrum are reinforcement learning where the machine is given only a numerical performance score as its guidance, and semi-supervised learning
where a smaller portion of the data is tagged. Two broad methods in UL are Neural Networks and Probabilistic Methods.

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Linear Regression:
In statistics, linear regression is a linear approach to modelling the relationship between a scalar response and one or more explanatory variables (also known
as dependent and independent variables). The case of one explanatory variable is called simple linear regression; for more than one, the process is called
multiple linear regression. This term is distinct from multivariate linear regression, where multiple correlated dependent variables are predicted, rather than
a single scalar variable.In linear regression, the relationships are modeled using linear predictor functions whose unknown model parameters are estimated from
the data. Such models are called linear models. Most commonly, the conditional mean of the response given the values of the explanatory variables (or
predictors) is assumed to be an affine function of those values; less commonly, the conditional median or some other quantile is used. Like all forms of
regression analysis, linear regression focuses on the conditional probability distribution of the response given the values of the predictors, rather than on
the joint probability distribution of all of these variables, which is the domain of multivariate analysis.
Linear regression was the first type of regression analysis to be studied rigorously, and to be used extensively in practical applications. This is because
models which depend linearly on their unknown parameters are easier to fit than models which are non-linearly related to their parameters and because the
statistical properties of the resulting estimators are easier to determine.
Linear regression has many practical uses. Most applications fall into one of the following two broad categories:

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Machine:
A machine is any physical system with ordered structural and functional properties. It may represent human-made or naturally occurring device molecular machine
that uses power to apply forces and control movement to perform an action. Machines can be driven by animals and people, by natural forces such as wind and
water, and by chemical, thermal, or electrical power, and include a system of mechanisms that shape the actuator input to achieve a specific application of
output forces and movement. They can also include computers and sensors that monitor performance and plan movement, often called mechanical systems.
Renaissance natural philosophers identified six simple machines which were the elementary devices that put a load into motion, and calculated the ratio of
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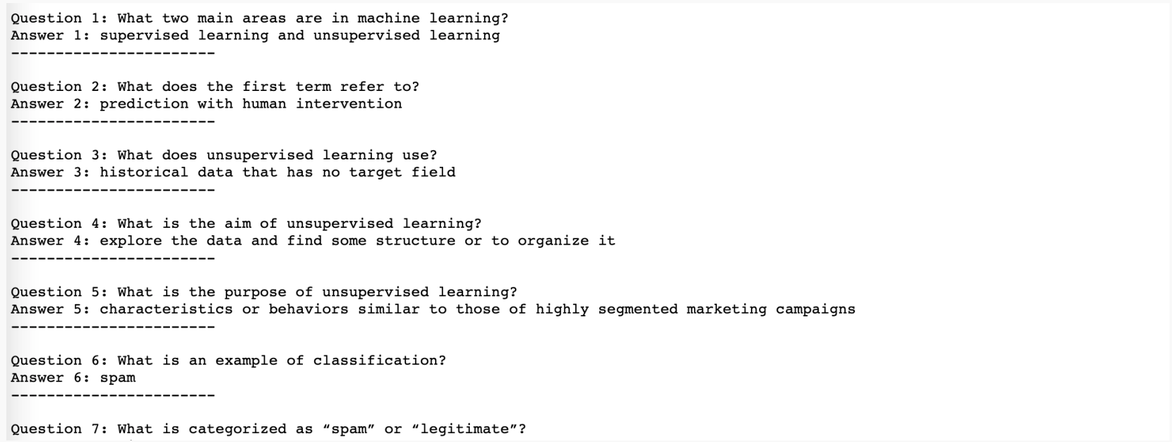

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Question 1: What two main areas are in machine learning?
Answer 1: supervised learning and unsupervised learning
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Question 2: What does the first term refer to?
Answer 2: prediction with human intervention
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Question 3: What does unsupervised learning use?
Answer 3: historical data that has no target field
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Question 4: What is the aim of unsupervised learning?
Answer 4: explore the data and find some structure or to organize it
------------------------

Question 5: What is the purpose of unsupervised learning?
Answer 5: characteristics or behaviors similar to those of highly segmented marketing campaigns
------------------------

Question 6: What is an example of classification?
Answer 6: spam
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Question 7: What is categorized as “spam” or “legitimate”?
```

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ATLAS is the most effective way for learners to organize their content...

	ATLAS	Brainscape, goconqr, Repetico, Quizlet	
AI-driven question generation	✅	❌	💪 Users don't loose time preparing bad questions
Custom highlighting to organize content by difficulty, topic and more	✅	❌	🙂 No redundant or too difficult content revision

...and to achieve long-term retention.

	ATLAS	Brainscape, goconqr, Repetico, Quizlet	
Fast content retrieval and personal suggestions	✅	❌	💪 Users can search all content ever collected
Active recall and spaced repetition through content linking	✅	❌	🙂 First application to use unsupervised content linking through keyword extraction

Four-Stages Machine Learning Model

Keywords Extraction: Yake! and TF_IDF

Keywords Tailoring: Wikipedia

Concepts Generation: Wikipedia and Web Scraping

Quiz Questions Generation: T5-Transformers Based Models

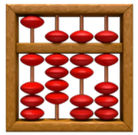
Our features are powered by cutting-edge scientific research

We draw on recent advancements in automatic question generation in education.

(Adapting question difficulty by highlight color; Le et al., 2014; Kurdi et al., 2020)

We integrate evidence-based study principles.

(Active recall and spaced repetition; Augustin, 2014)



We leverage state-of-the-art natural language processing algorithms.

(Transformer-based end-to-end question generation; Enrico Lopez et al., 2020)

The ATLAS pricing model:
users get to love our product through the free tier and choose to go premium

$0

Always free

$15/m

Premium Features

We address a fast-growing market boosted by Covid-19

Students completing MOOCs

180M

Students completing MOOCs in CS or DS

45M

ATLAS users

4.5M

💡 This analysis focuses on Computer Science and Data Science students however we plan to extend to additional subjects soon.

💡 With a Serviceable Obtainable Market of 4.5M users and 10% Premium customers this equals a potential MRR of 6.75M.

Where are we going from here?

Launch MVP through MOOC forums, online communities, content creator and influencers

Target wider audience through referral scheme and paid marketing

Boost user growth through partnerships with MOOC providers, universities and textbook companies

We have the skill set to fundamentally improve how students learn

Jesse Doan

Frontend Development & AI

CS at Stanford

Conrad Borchers

Learning Science

Psychology at the University of Tübingen

Paul Muller

Business Dev & Product

CS at KCL

Mohamed Gaber

Backend Development & Data Science

Data Science at Minerva Schools at KGI

References

Augustin, M. (2014). How to learn effectively in medical school: test yourself, learn actively, and repeat in intervals. The Yale journal of biology and medicine, 87(2), 207.

Enrico Lopez, L., Cruz, D. K., Blaise Cruz, J. C., & Cheng, C. (2020). Transformer-based End-to-End Question Generation. arXiv e-prints, arXiv-2005.01107.

Kurdi, G., Leo, J., Parsia, B., Sattler, U., & Al-Emari, S. (2020). A systematic review of automatic question generation for educational purposes. International Journal of Artificial Intelligence in Education, 30(1), 121-204.

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