ATYPON

Online Publishing Platforms and the Advancement of Scientific Communication

在線出版平台與科學傳播的推進

Hong Zhou 周洪

Senior Product Director of AI Products & R&D
高級人工智能產品總監及全球研發中心負責人

hzhou@atypon.com

November 2019

WILEY

What’s influencing scholarly publishing in Western markets?

在西方市場裡, 影響學術出版的因素有哪些?

The open access movement

開放獲取運動

A demand by researchers and other stakeholders for free public access to scientific and other research content

研究人員和其他利益相關群體要求公眾免費獲取科學和其他研究內容

Open Science
開放科学

- A collaborative approach to scientific research

  科學研究的協作方法

- Encourages sharing all research outcomes, including data, lab notes, and computer code

  鼓勵分享所有研究成果，包括數據、實驗室筆記和計算機代碼

- Makes it freely available to reuse and reproduce

  自由地重複利用和重現

Atypon’s mission 使命

To develop technology solutions for accelerating, expanding, and improving scholarly communication worldwide

為加速擴展並改善全球學術的交流提供完整的技術解決方案

ATYPON

- Founded 1996 in Silicon Valley

  1996年成立於美國矽谷

- 471 employees

  471名員工

- 75% engineers, 17% client services, 8% admin

  75%工程師, 17% 客户服務人員以及8% 行政管理人員

LITERATUM

The world's most widely used scholarly website development and online publishing platform

世界上最廣泛使用的學術網站開發和在線發布平台

3.2B USER SESSIONS 用户訪問

27M ARTICLES 論文

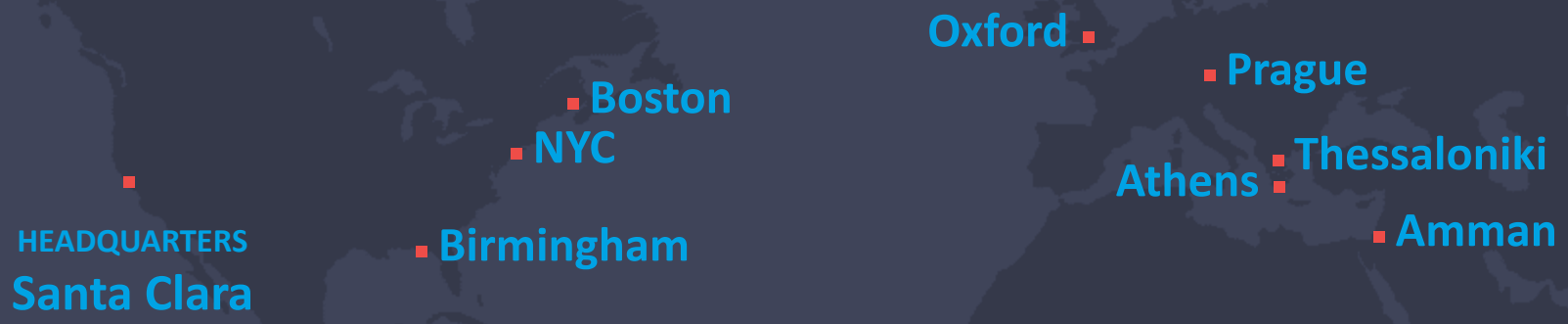
390K eBOOKS 電子書

13K JOURNALS 期刊

2,300 SOCIETIES 協會

900+ WEBSITES 網站

ATYPON



470+位團隊成員分布於全球九個研發中心
470+ team members in 9 offices and development hubs around the world.

ATYPON WILEY

Atypon 成立於1996年
Atypon was founded in 1996.

2016年，Atypon成為Wiley旗下的獨立事業群，同時仍保有Wiley為主要客戶之一。
Since 2016, Atypon has functioned
as an independent business unit of Wiley, which is also an Atypon client.

#1

Content discovery across the globe

全球範圍內的內容發現

ATYPON

Support for global technology and industry standards ensure **consistent availability** and **access** for **libraries and publishers**

支持全球技術和行業標準，**確保圖書館和出版商的可用性和訪問保持一致。**

Content discovery across the globe
全球範圍內的內容發現

Shared standards
共享標準

ORCID Connecting Research and Researchers

<JATS>

W3C WORLD WIDE WEB consortium

CROSSMARK Smarter Way. Faster Growth.

daisy consortium

<NISO STS>

doi

Crossref

b.i.t.s.

ATYPON

Content discovery across the globe
全球範圍內的內容發現

Shared standards
共享標準

Powerful, **built-in SEO** increases visibility across the world's most used search engines and aggregators

強大的內置SEO(搜索引擎優化)增強了內容在全球最常用的搜索引擎上的可見性

Google

Google Scholar

Baidu 百度

Bing

PubMed

ATYPON

Content discovery across the globe
全球範圍內的內容發現

Increased impact
提升影響力

Hosting all of your content, products, and websites on a single platform improves onsite search and SEO

在一個平台上託管所有內容、產品和網站可提升改進搜索體驗及搜索引擎優化

ATYPON

Content discovery across the globe
全球範圍內的內容發現

Increased impact
提升影響力

- Dynamically generated and targeted **content recommendations**

動態生成和有針對性的內容推薦

- “More like this” (topic-based)

“更像這樣”（基於主題）

- “Readers also liked” (user-based)

“讀者也喜歡”（基於用戶）

- Other recommendation services driven by machine learning

機器學習驅動的其他推薦服務

#2

Modern publication websites for international audiences

現代出版網站

Compelling interfaces, intuitive navigation, stable technology experiences, and rich, interactive content attract new readers and keep them onsite longer

令人信服的界面、直觀的導航、穩定的技術體驗以及豐富的交互式內容吸引了新的讀者，並使他們在網站頁面停留的時間更長。

- Publisher-branded websites designed for **international audiences**

為全球受眾設計的出版商品牌網站

End-user research to address the varying needs and expectations of users **across disciplines and cultures**
終端用戶研究，以滿足跨學科和跨文化用戶的不同需求和期望

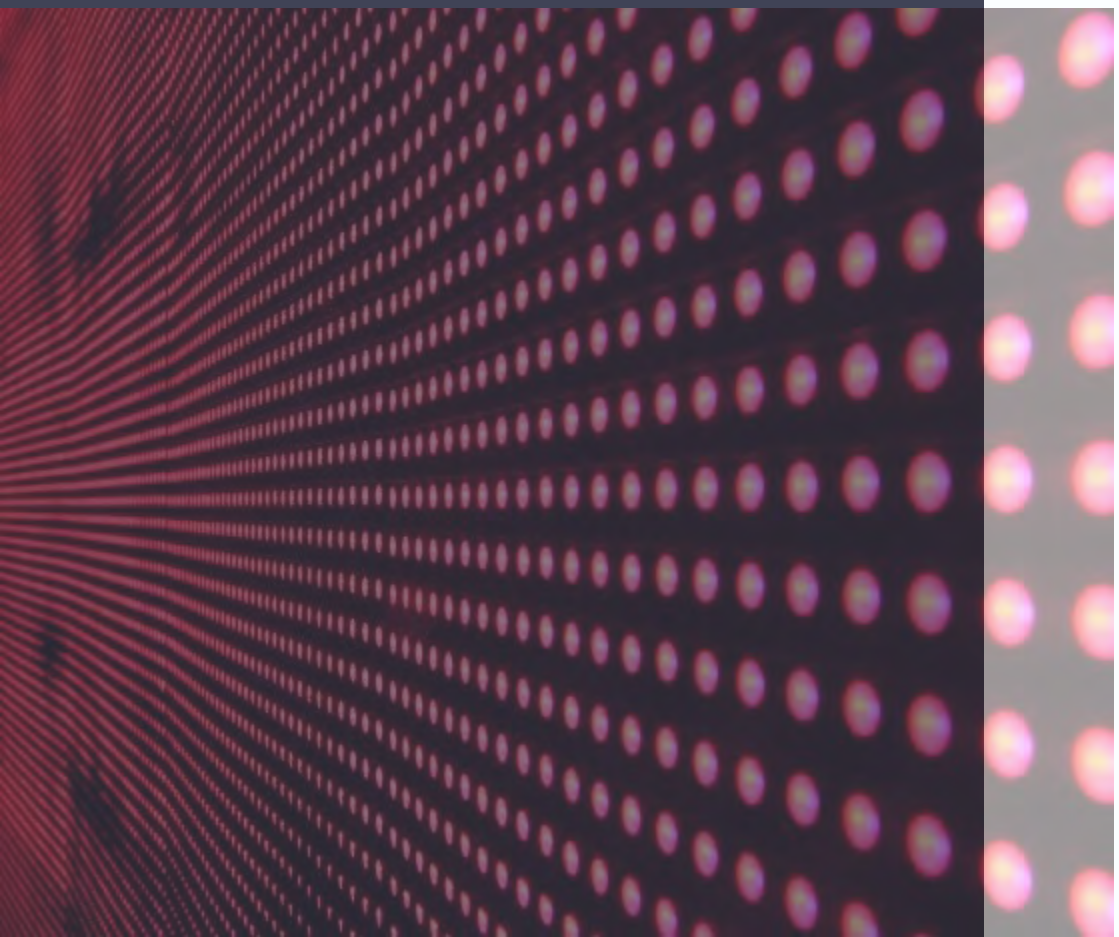
User interface and user experience design that encourage **return visits**

鼓勵回訪的用戶界面和用戶體驗設計

#3

Technology that increases the impact of scholarly research

提升學術研究影響力的技術



Technology that increases the impact of scholarly research

提升學術研究影響力的技術

- The ability to treat multimedia and interactive content with the same authority as journal articles

具有與期刊文章相同權限的多媒體和交互式內容的處理能力

All are assigned DOIs to make them a discoverable part of the scientific record

所有的內容都會被分配數字對象識別碼，使它們成為科學記錄中的一部分並具有可見性

Technology that increases the impact of scholarly research

提升學術研究影響力的技術

Support for any sales, license, and subscription model, including open access.

支持任何銷售、許可和訂閱模式，包括開放獲取。

New Atypon technologies
新Atypon 技術

Facilitating
scientific reproducibility
促進科學可重現性

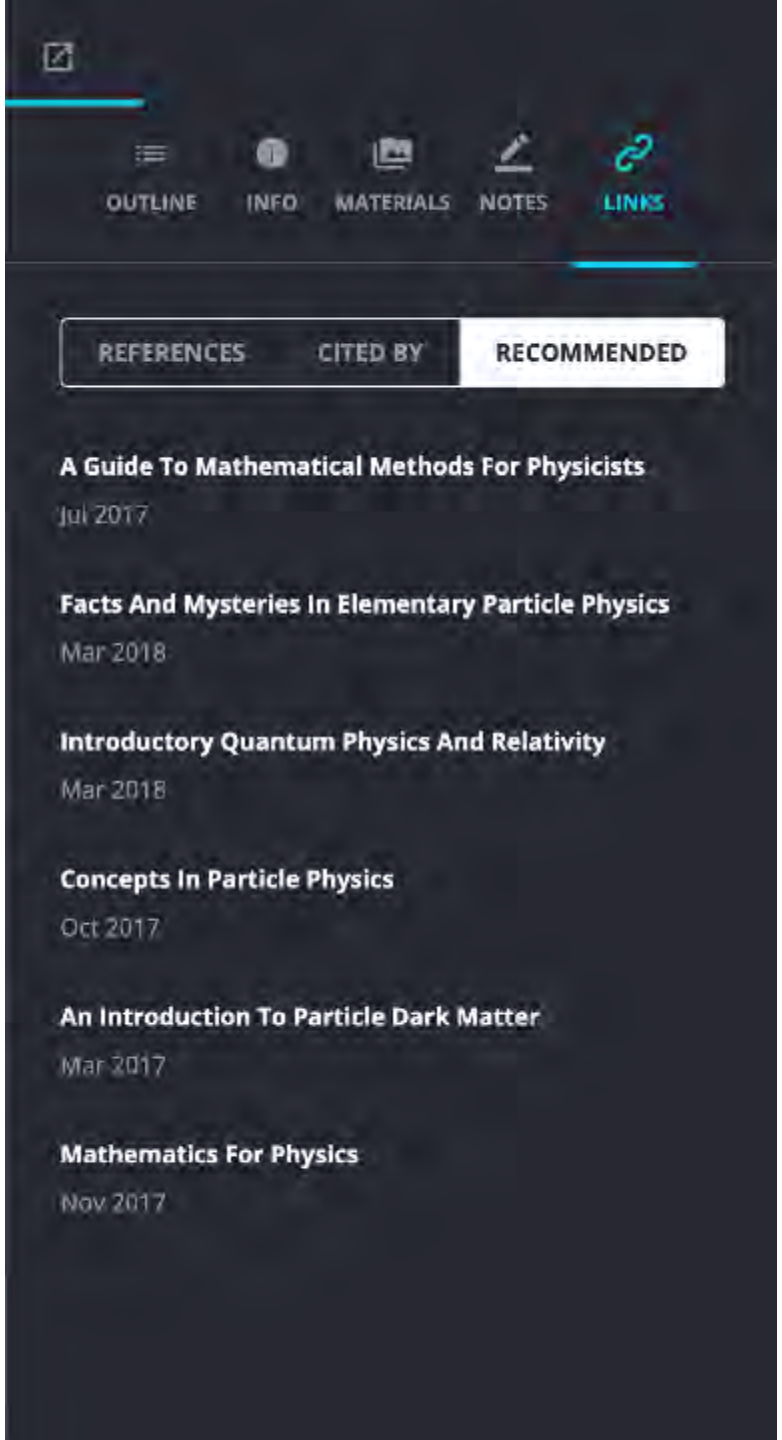
Improving discoverability
提高可發現性

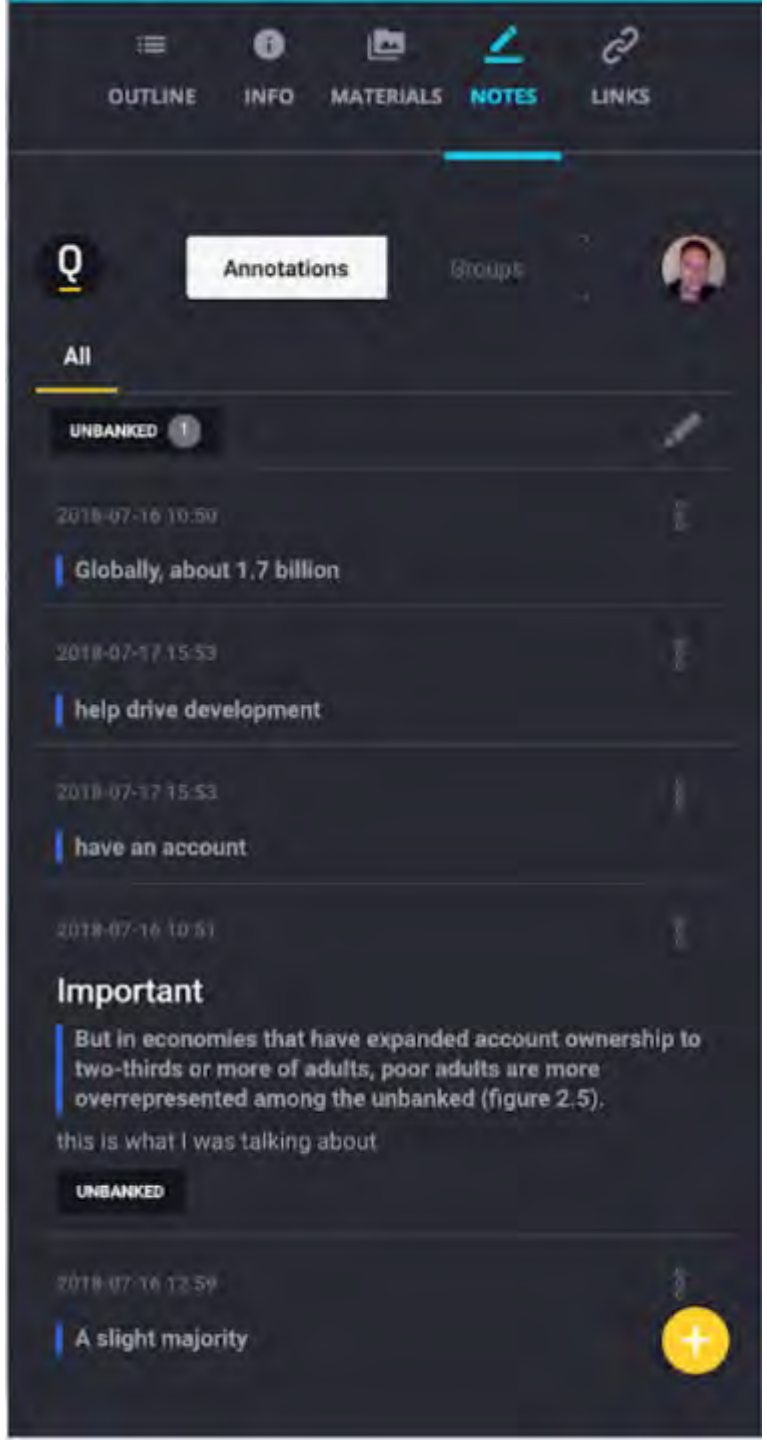
Accelerating
the publication of science
加快科學出版

ATYPON eReader

Read books & journals on any browser, any device, with reading progress
synced across devices

在任何的瀏覽器及設備上閱讀圖書和雜誌，並在設備間同步閱讀進度





Recommendations & annotations

推薦 & 註解

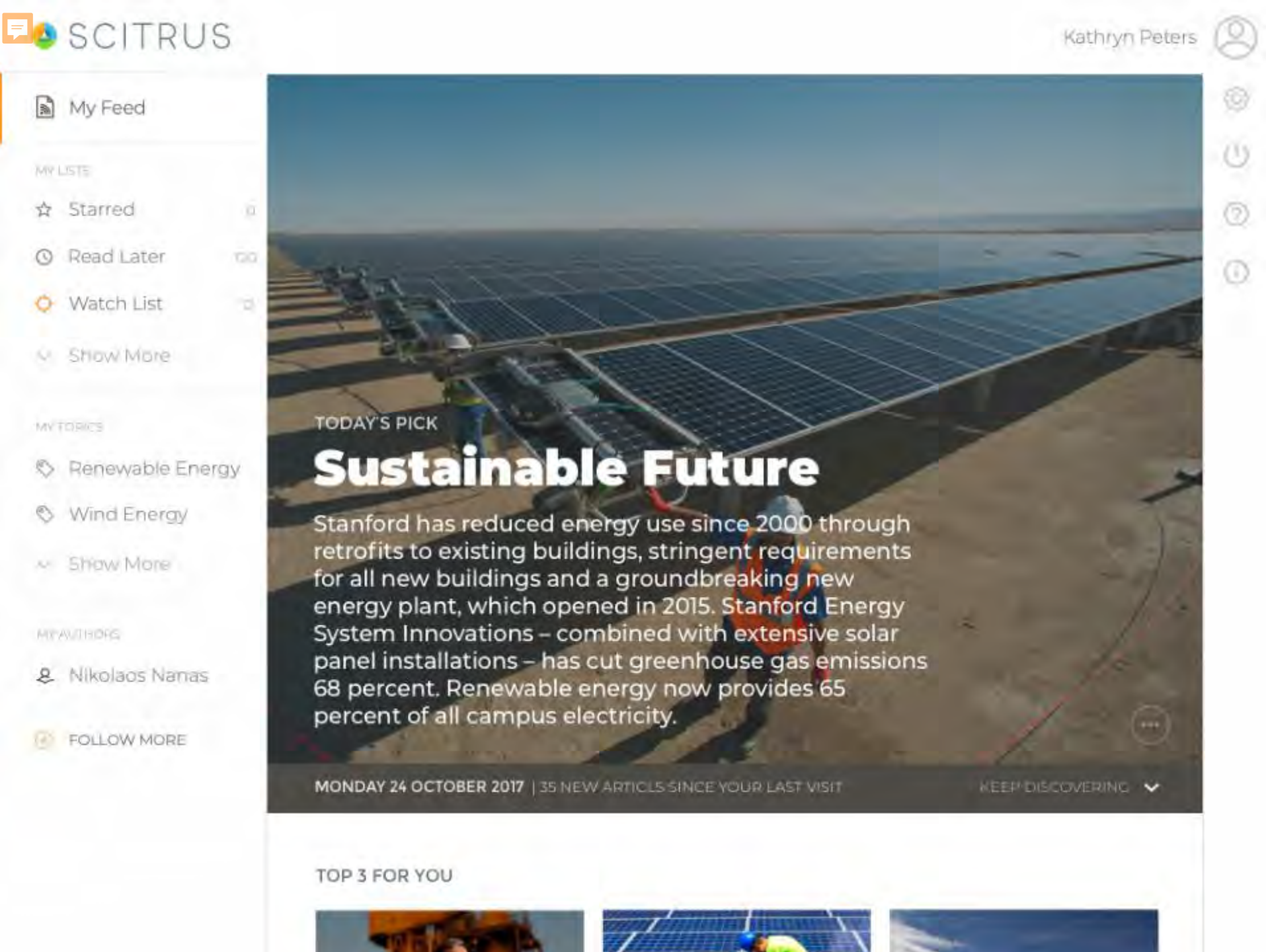
SCITRUS

Accelerates science by accelerating discovery

通過加速發現來加速科學發展

Personalized, AI-driven discovery that delivers a live, personalized feed with the latest research and news in the researcher's specialty

個性化、人工智能驅動的發現可以對研究者專業的最新研究和新聞提供實時、個性化的反饋



User feed
用戶的個性化信息流

A continuous stream of the most relevant academic content from across the web

網絡上源源不斷的最相關的學術內容

ATYPON

MANUSCRIPTS

Collaborative authoring app

- Automatically enforces each journal's guidelines and style templates

自動執行每個期刊的作者指南和樣式模板

Lets users attach, execute, and interact with the code and data behind their research

允許用戶附加、執行並與研究背後的代碼和數據進行交互

Scholarly content: figures, tables, equations, cross-references + more

Fungal Metabolites

- Chromatin mapping identifies ...
  - Abstract
  - Introduction
  - Results
    - Genome-wide profiles of...
    - Co-cultivation of A. nidul...
    - Bacteria induce element...
  - Discussion
    - S. rapamycinicus induce...
    - Increased gene expressi...
  - Bibliography

Add Manuscript

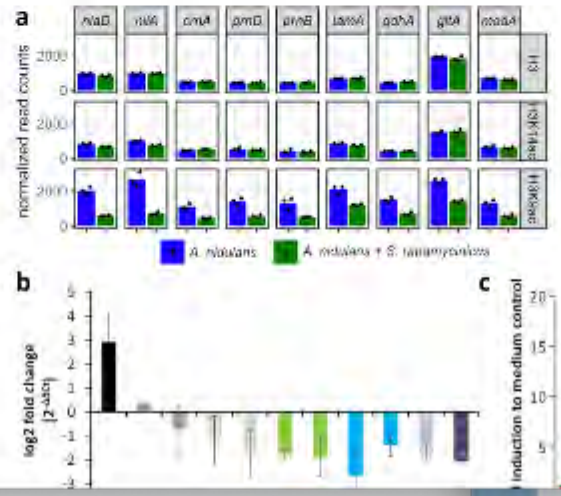
Project Edit Insert Format

Paragraph

Results

Genome-wide profiles of H3K9 and H3K14 acetylation in *A. nidulans* change upon co-cultivation with *S. rapamycinicus*

A. nidulans with and without *S. rapamycinicus* was analyzed by genome-wide ChIP-seq for enrichment of acetylated (ac) histone H3 at lysines K9 and K14 (**Figure 1**; Appendix 1 – Details of ChIP analysis). To account for reads originating from *S. rapamycinicus* we fused the genomes of *A. nidulans* (eight chromosomes) and *S. rapamycinicus*. The resulting fused genome also served as reference for mapping of chromatin marks (see Appendix 1 – Details of the ChIP analysis).



$$\int_0^\infty e^{-x}\frac{\sin(ax)}{\sinh x}\mathrm{d}x = \frac{1}{2}\pi c$$

```
\int_{0}^{\infty}e^{-x}\frac{\sin\left(ax\
}{2}\pi\coth\left(\frac{1}{2}\pi a\right)-
```

Project Edit Insert Format

different objects.

No.	Action	Associated Activities	No.	Action	Associated Activities
1	Turn on light	1, 2, 4, 5, 7	14	Pick up	3, 4, 5, 10
2	Turn off light	1, 2, 4, 5, 7	15	Put down	3, 4, 5, 10
3	Wash hands	2, 7	16	Comb hair	4
4	Dry hands	1, 2, 7	17	Flush toilet	7
5	Wash face	1	18	Open door	6, 7, 8
6	Dry face	1	19	Close door	6, 7, 8
7	Take a pill	10	20	Fall	12
8	Sit down	7, 11	21	Lie down	6
9	Stand up	7, 11	22	Turn off lamp	6
10	Use toilet	7	23	Sleep	6
11	Drink	3, 10	24	Get up	6
12	Use cellphone	9	25	Use TV remote	11
13	Shave	3	26	Watch TV	11

Table 2: Action Breakdown of ADLs/IADLs

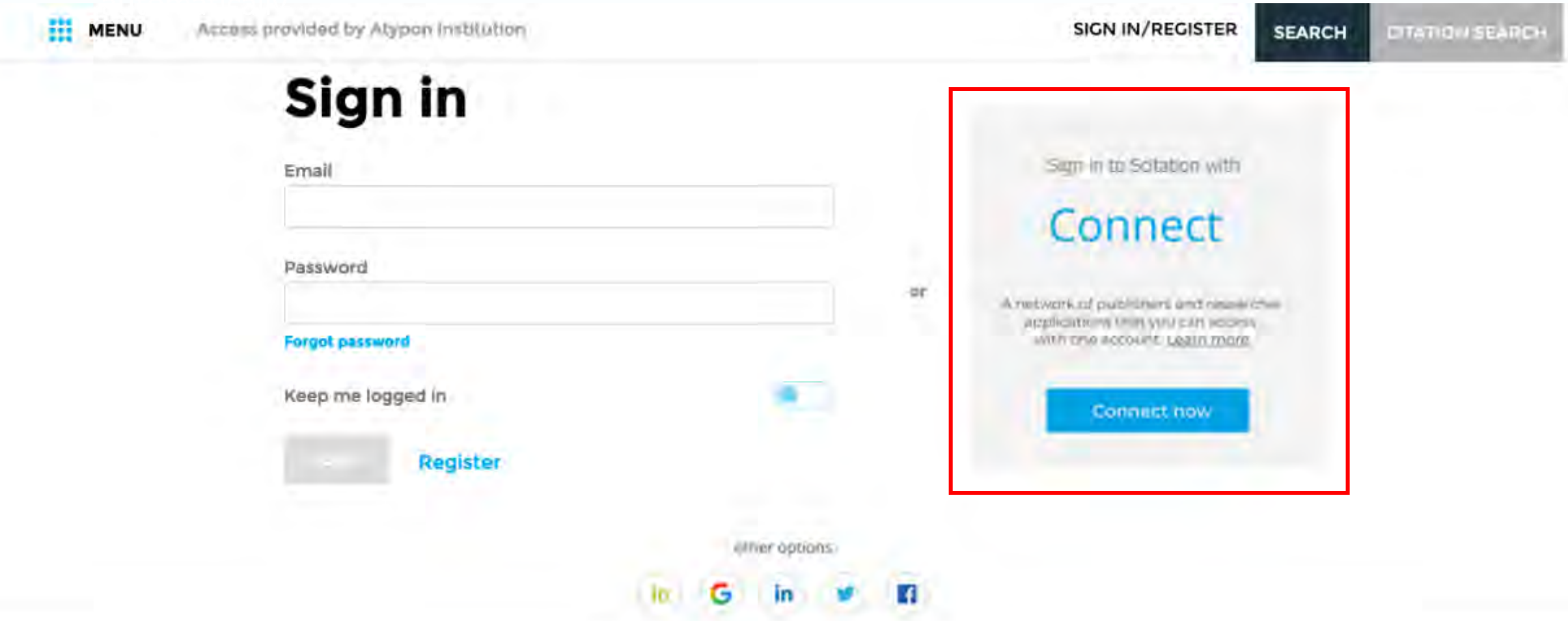
Add Manuscript

connect

Lets users move seamlessly across their research universe
讓用戶在研究領域中無縫進行

- A secure, consolidated single sign-on web app
  安全且統一的單點式登錄web app
- Works with publisher sites *and* researcher apps
  可以和出版商網站及研究人員的軟體一同運行
- Platform and publisher agnostic
  與平台和發行商平行
- Replaces IP authentication
  取代IP驗證

Supporting the industry's goal of simplified access
協助企業達成快速造訪的願景

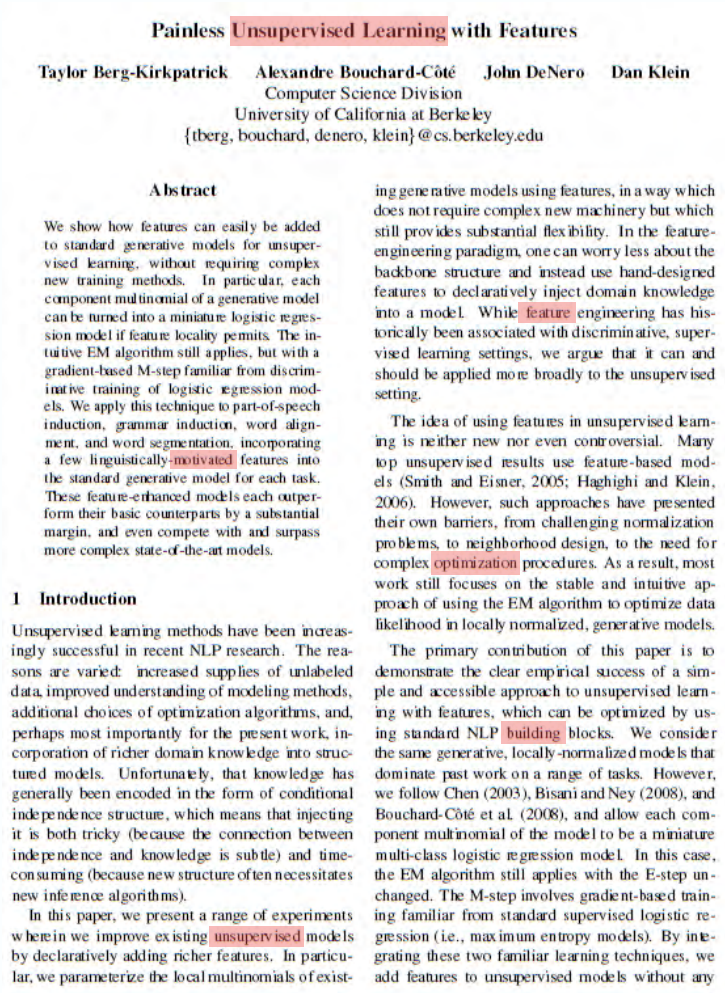


“AI in all” development philosophy
“AI in all” 開發哲學

Examples of how Atypon’s R&D is improving discovery

案例分享

1. Content enrichment 充實內容:
Automatic key phrase extraction 自動產出文章關鍵字



Painless Unsupervised Learning with Features

Taylor Berg-Kirkpatrick Alexandre Bouchard-Côté John DeNero Dan Klein
Computer Science Division
University of California at Berkeley
{tberg, bouchard, denero, klein}@cs.berkeley.edu

Abstract

We show how features can easily be added to standard generative models for unsupervised learning, without requiring complex new training methods. In particular, each component multinomial of a generative model can be turned into a miniature logistic regression model if feature locality permits. The intuitive EM algorithm still applies, but with a gradient-based M-step familiar from discriminative training of logistic regression models. We apply this technique to part-of-speech induction, grammar induction, word alignment, and word segmentation, incorporating a few linguistically-motivated features into the standard generative model for each task. These feature-enhanced models each outperform their basic counterparts by a substantial margin, and even compete with and surpass more complex state-of-the-art models.

1 Introduction

Unsupervised learning methods have been increasingly successful in recent NLP research. The reasons are varied: increased supplies of unlabeled data, improved understanding of modeling methods, additional choices of optimization algorithms, and, perhaps most importantly for the present work, incorporation of richer domain knowledge into structured models. Unfortunately, that knowledge has generally been encoded in the form of conditional independence structure, which means that injecting it is both tricky (because the connection between independence and knowledge is subtle) and time-consuming (because new structure often necessitates new inference algorithms).

In this paper, we present a range of experiments wherein we improve existing unsupervised models by declaratively adding richer features. In particular, we parameterize the local multinomials of existing generative models using features, in a way which does not require complex new machinery but which still provides substantial flexibility. In the feature-engineering paradigm, one can worry less about the backbone structure and instead use hand-designed features to declaratively inject domain knowledge into a model. While feature engineering has historically been associated with discriminative, supervised learning settings, we argue that it can and should be applied more broadly to the unsupervised setting.

The idea of using features in unsupervised learning is neither new nor even controversial. Many top unsupervised results use feature-based models (Smith and Eisner, 2005; Haghighi and Klein, 2006). However, such approaches have presented their own barriers, from challenging normalization problems, to neighborhood design, to the need for complex optimization procedures. As a result, most work still focuses on the stable and intuitive approach of using the EM algorithm to optimize data likelihood in locally normalized, generative models.

The primary contribution of this paper is to demonstrate the clear empirical success of a simple and accessible approach to unsupervised learning with features, which can be optimized by using standard NLP building blocks. We consider the same generative, locally-normalized models that dominate past work on a range of tasks. However, we follow Chen (2003), Bisani and Ney (2008), and Bouchard-Côté et al. (2008), and allow each component multinomial of the model to be a miniature multi-class logistic regression model. In this case, the EM algorithm still applies with the E-step unchanged. The M-step involves gradient-based training familiar from standard supervised logistic regression (i.e., maximum entropy models). By integrating these two familiar learning techniques, we add features to unsupervised models without any

Rank	Key Phrase
1	Word segmentation
2	Unsupervised learning
3	EM algorithm
4	NLP
5	Features
6	Standard generative models

AI recommendation engine 人工智能推薦引擎




DOWNLOAD

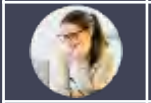
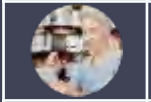
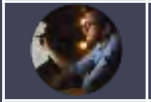
FAVOURITE

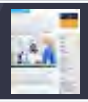
VIEW

CLICK



MACHINE LEARNING

User	Interest 1	Interest 2	Interest 3	...
	Computer science	Machine learning	Nature science	...
	Biomedical	Machine learning	Health care	...
	Biomedical	Health care	Nature science	...
	Health policy	Health care	Nature science	...

Content	Attribute 1	Attribute 2	Attribute 3	...
	Computer	Science	Biomedical	...
	AI	Machine learning	Recommend-ation	...
	Biomedical	Health	Policy	...
	Health care	Policy	Science	...

Atypon collaborates with leading AI research teams around the globe

Atypon 與全球領先的人工智能研究團隊合作

ATYPON

WILEY

@atypon
atypon.com
info@atypon