

# Digitisasi dan Digitalisasi Manuskrip Pegon

دیجیتیزاسی دان دیجیتالیزاسی مانوسکریف فِیگُون



Aksarantara (Eks. Pegonizer)  
Yova Ruldeviyani

دیجیتیزاسی

# SEJARAH PEGON

- ❑ Abad VII: aksara Jawi berbahasa Melayu, prasasti Trengganu
- ❑ Abadi XIV: aksara Pegon berbahasa Jawa, Sunda, dan Madura



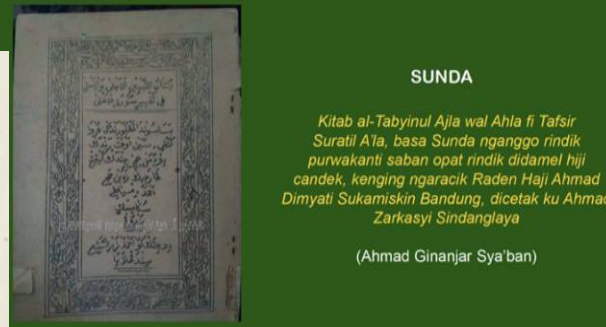
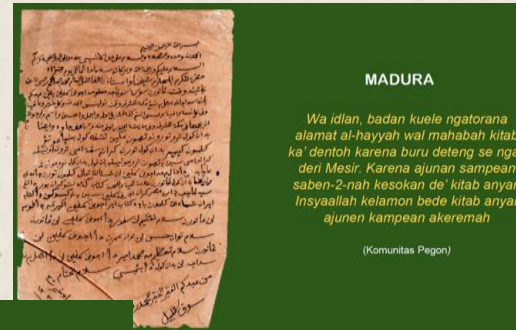
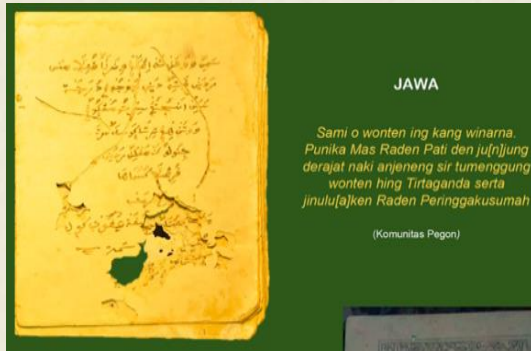
nawaksara.id

Sumber: Zainuddin (2022)



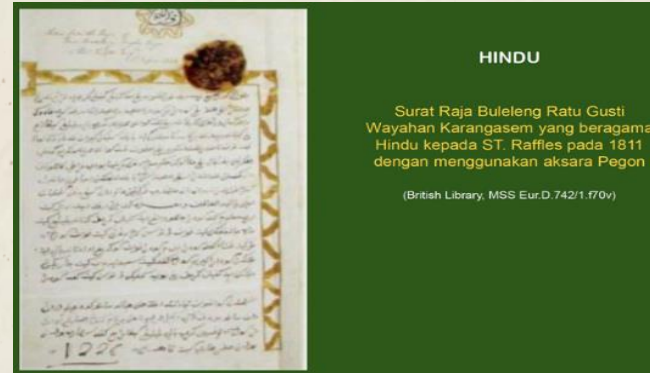
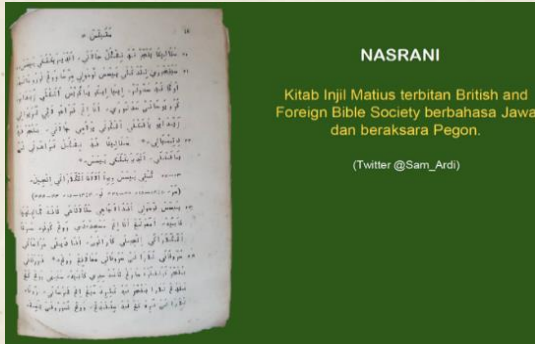
# ALAT KOMUNIKASI

- Khususnya Jawa, Sunda, dan Madura

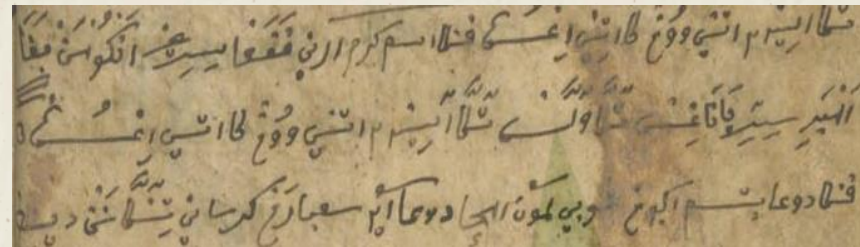
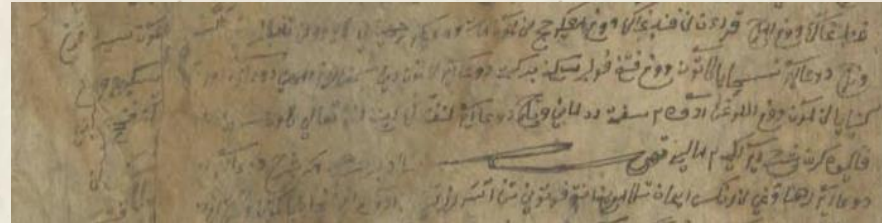
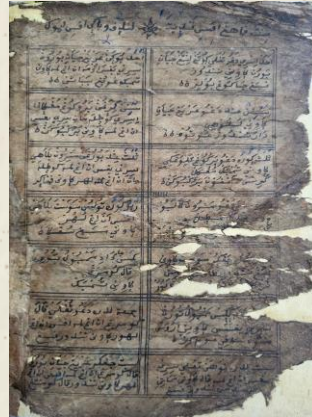


# RAGAM KARYA

- ❑ Banyak karya beraksara Pegon yang tersebar hingga mancanegara



# KONDISI MANUSKRIP



# UPAYA PELESTARIAN

- Fisik
  - Manassa (Masyarakat Pernaskahan Nusantara)
- Konten
  - DREAMSEA (*Digital Repository of Endangered and Affected Manuscripts in Southeast Asia*)



# DIGITISASI & DIGITALISASI

- ❑ Digitisasi
  - ❑ Proses mengubah naskah yang berbentuk non-digital/analog/fisik menjadi digital (file)
  - ❑ Ubah ke file teks melalui pengenalan karakter (OCR)
  - ❑ Bisa disimpan dan diproses
- ❑ Digitalisasi
  - ❑ Proses yang memanfaatkan teknologi dan data digital untuk meningkatkan bisnis, pendapatan, dan menciptakan budaya digital
  - ❑ Proses mengembangkan data digital menjadi suatu produk atau layanan digital
  - ❑ Transliterasi, pencarian data, ekstraksi data



# AKSARANTARA (PEGONIZER)

Manajemen Koleksi  
Manuskrip  
(Library)

Pengenalan teks  
tulisan tangan aksara  
Arab dan Pegon  
(OCR)

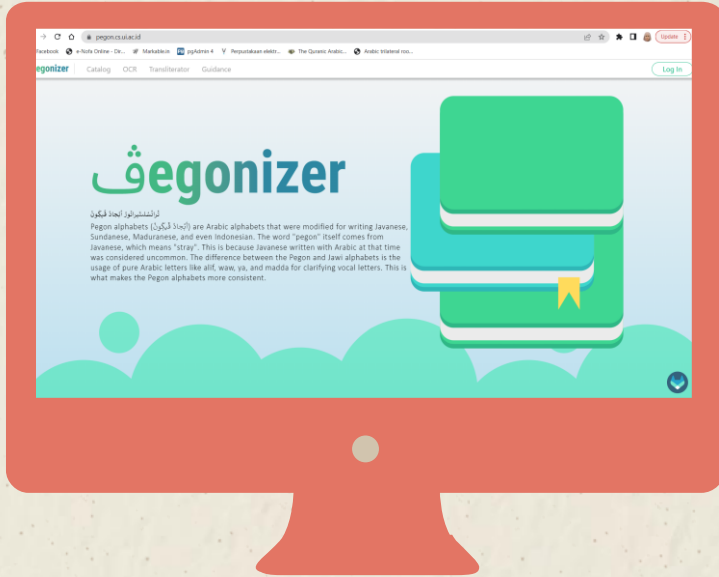
Transliterasi





# فېگون

# Pegonizer



Visit [pegon.cs.ui.ac.id](http://pegon.cs.ui.ac.id)

# فېگون

# AKSARANTARA

aksarantara.cs.ui.ac.id

**Aksarantara** Search documents AP

**Welcome, Aksara!**  
Join us in delving into the richness of Southeast Asian scripts and collectively enhancing the community's knowledge.  
[Contribute](#) [Explore](#)

**Current User Status**

Published Documents	Unpublished Documents	Viewed Documents	Bookmarks
9	0	4	1

**Latest Documents**

- Tafsir Nur al-Ihsan Juzuk 1**  
Contributed by Aksara Pitaka 2 weeks ago
- Tarikhul Aulya**  
Contributed by Aksara Pitaka 2 weeks ago
- Primbon Warna Warni**  
Contributed by Aksara Pitaka 2 weeks ago
- Primbon Perhitungan Waktu**  
Contributed by Aksara Pitaka 2 weeks ago



Go ajang Asian Digital Award 2023 (Singapore)






# LIHAT KOLEKSI

Aksarantara Search documents AP

## Explore Documents

9 entries found Contribute

Filter

Title	Contributor	Language	Document Type	Author	Collector	Publication Date
 Tafsir Nur al-Ihsan Juzuk 1	Aksara Pitaka	MALAY	Religious text	Muhammad Sa'id al-Qadhi	Not Specified	2 weeks ago
 Tarikhul Auliya	Aksara Pitaka	JAWA	History	KH Bisri Mustofa	Not Specified	2 weeks ago
 Primbon Warna Warni	Aksara Pitaka	JAWA	Divination	Anonymous	Not Specified	2 weeks ago
 Primbon Perhitungan Waktu	Aksara Pitaka	JAWA	Divination	Anonymous	Not Specified	2 weeks ago
 Mitro Sejati	Aksara Pitaka	JAWA	Religious text	KH Bisri Mustofa	Not Specified	2 weeks ago

5 items per page 1 - 5 of 9



# UPLOAD KOLEKSI

Aksarantara Search documents AP

Drag and drop your PDF file here  
or  
[Browse](#)

## Create New Document

Title \*

Author Collector

Document Type \* Language \* Document Script \*

Year Written Location Written

Ink Illumination

Description

Thumbnail \*

[Save Document](#)



# KOLEKSI PRIBADI


Aksarantara

Search documents AP

## My Library

My Bookmarks Viewed Contributions

Filter Title Language Document Type Author Collector

Title	Contributor	Language	Document Type	Author	Collector	Publication Date
 Surat tu Raja Moses Lumbantobing	Aksara Pitaka	TOBA	letter	Fr. Ingwer Ludwig Nommensen	Not Specified	1 month ago

5 Items per page < 1 - 5 of 1 >



# OCR

The screenshot shows the 'Aksarantara' web application interface. At the top, there is a search bar with the text 'Search documents' and a user profile icon labeled 'AP'. The main heading is 'OCR', followed by a sub-heading: 'Experience on-the-fly OCR for manuscripts in supported scripts. Simply upload your image, and instantly see the text within it transcribed and displayed. ⚠️ This feature uses experimental AI technology and may produce inaccurate results.'

Below the heading, there is a 'Script' dropdown menu currently set to 'Pegon'. A large dashed box indicates the area for uploading an image, with the text 'Drag and drop your image file here.' and 'or' followed by a 'Browse' button. At the bottom of this section is a prominent green 'Process' button.

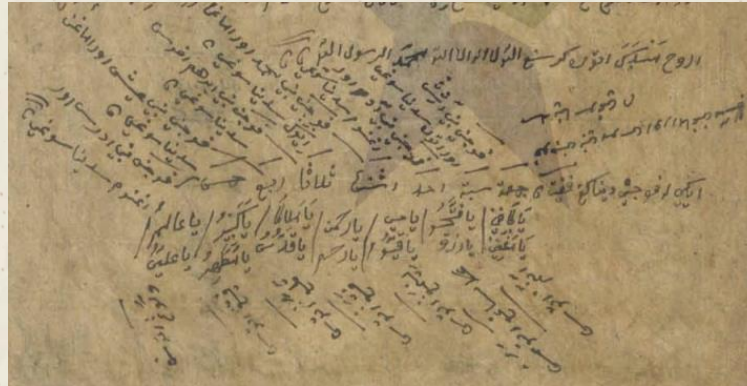
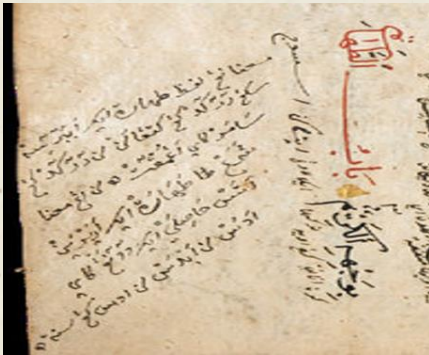
On the right side of the interface, there is a section titled 'Detected Text' which currently displays the message 'No OCR process running.'

At the bottom of the application, a footer note reads: 'This is made possible thanks to Tokopedia-UI AI Center and the Faculty of Computer Science Universitas Indonesia.'



# Permasalahan pada OCR Pegon

- Gaya tulisan: Khot Arab Naskh dan Parsi Persia dengan bentuk ramping, lentur, dan miring (Sya'ban, 2022)



پښتو



# Permasalahan pada OCR Pegon

- Pegon berharakat dan tidak berharakat

سادير يعيقون اكامى اسلام مالبت اغ تاناها جاوى، باغسا  
كيتا سمفون كاداه كافتادووسان روفى ٢ اغكغ تووهيقون ناموغ  
ساكغ كاشاگان ٢ كياماون، عموميقون كاواستانان :

اِنَّهُ يُحَرِّمُ بِخَمْسَةِ عَوَارِضٍ . اِلَى اَنْ قَالَ الْعَارِضُ الْاَوَّلُ اَنْ يَكُوْنَ  
الْمُسْتَمِعُ اِمْرَاةً لَا يَحِلُّ النَّظْرُ لِيَهَا وَتَحْتَى الْفِتْنَةُ مِنْ سَمَاعِهَا . هـ .  
(احياء علوم الدين جزء الثانى صحيفة ٢٧٩ لجمعة الاسلام الى عامه الغزالى ) .





# Permasalahan pada OCR Pegon

- Pegon naratif

أَنَّهُ يَحْرَمُ مَحْسَبَةَ عَوَارِضٍ. إِلَى أَنْ قَالَ الْعَارِضُ الْأَوَّلُ أَنْ يَكُونَ  
الْمُسْتَمِعُ امْرَأَةً لَا يَحِلُّ النَّظَرُ إِلَيْهَا وَتَحْشَى الْفِتْنَةَ مِنْ سَمَاعِهَا. اهـ .  
(احياء علوم الدين جزء الثالثه صحيفه ٢٧٩ حجة الاسلام الى عامه الغزاليه )

- Pegon ma'nani

قال الشيخ الإمام العالم العلامة شمس الدين أبو عبد الله محمد بن قاسم الشافعي تَعَمَّده اللهُ بِرَحْمَةٍ وَرِضْوَانِهِ  
آمِينَ الْحَمْدُ لِلَّهِ تَبَرَّكَ نَفَاتِحَةُ الْكِتَابِ لِأَنَّهَا أَبْدَأَ كُلَّ أَمْرٍ ذِي بَالٍ وَخَاتَمَهُ كُلَّ دَعَاءٍ سَجْدٍ وَأَخْرَجَ عَوَى  
المؤمنين في الجنة دار التواب أحمدة أن وفق في إرادته من عبادة التفتقه في الدين على وفق مراده وأصله  
وأستمر على أفضل خلقه محمد بن عبد المرسلين القائل من ير ذأ الله به خيرا يفتقه في الدين وعلى اله وصحبه يودة





# Transliterasi

The screenshot shows the 'Aksarantara' web application interface. At the top, there is a search bar with the text 'Search documents' and a user profile icon labeled 'AP'. Below the search bar, the interface is divided into 'Script' and 'Variant' sections. The 'Script' dropdown is set to 'Pegon' and the 'Variant' dropdown is set to 'Jawa'. The main area is split into 'Input' and 'Output' sections. The 'Input' section is labeled 'Latin' and contains the text 'kemarin hujan d^eras'. The 'Output' section is labeled 'Pegon (Jawa)' and contains the text 'kêmârin hujân hujân d^eras'. Below the main text area, there are two options: 'Reversible' and 'Standard'. The 'Standard' option is selected. The interface also features a sidebar with various icons for navigation and settings.



# Aksara



Arab

- ❑ CA, MSA, DA
- ❑ Karakter 28 huruf (abjad murni 19)
- ❑ Variasi bentuk, diakritik (variasi hingga 70-80)
- ❑ Morfologi (inflection, derivation), Sintaktik (VSO)

Latin

- ❑ Umum
- ❑ 26 huruf

Jenis Kelamin	laki-laki ((يَسْمَعُ))	perempuan ((تَسْمَعُ))	
Jumlah	singular ((يَسْمَعُ))	dual ((يَسْمَعَانِ))	plural ((يَسْمَعُونَ))
Waktu	past ((سَمِعَ))	present ((يَسْمَعُ))	future ((يَسْمَعُونَ))
Tindakan	aktif ((سَمِعَ))	pasif ((سُمِعَ))	

Pegon

- ❑ Kongres Aksara Pegon 21-22 Oktober 2022
- ❑ 35 karakter
- ❑ ga - (اڭ), dha (ڏ), tha (ٿ), pa (ڦ), ca (ڇ), nya (ي), nga (غ)
- ❑ Ditemui pada sejumlah manuskrip beberapa karakter lainnya
- ❑ Hampir sebagian besar belum terdaftar di unicode

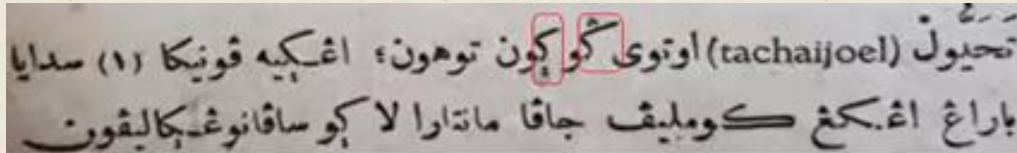
root H-S-N	
“ihsan” (إحسان)	perbuatan baik
“hasanah” (حسنة)	kebaikan moral



# Permasalahan pada Standardisasi Aksara dan Pedoman Tata Tulis

- ❑ Aksara Arab dan Pegon
  - ❑ Perbedaan tanda baca dan penulisan: khat rasm Utsmani dan Kemenag RI
- ❑ Aksara Pegon:

- ❑ Variasi aksara bergantung kebiasaan para ulama
- ❑ Bunyi yang sama bisa memiliki bentuk huruf yang berbeda



- ❑ Belum terdaftar pada unicode: Dal (د) bertitik 2 dibawahnya sebagai bunyi “dh”, huruf Tah (ط) bertitik 2 dibawahnya sebagai bunyi “th”, dan 1 penanda vokal e pepet (ه).
  - ❑ Sudah terdaftar, bentuk huruf belum bisa digunakan: huruf Tah (ط) bertitik 1 dibawahnya dan bertitik 3 dibawahnya sebagai bunyi “th”



# Permasalahan pada Standarisasi Aksara dan Pedoman Tata Tulis

- ❑ Aksara Pegon Sunda
  - ❑ Kombinasi huruf yang menyalahi aturan:  
“ra-ha” (رِه), “wau-ta” (وَت), dan “wau-ha” (وِه)
- ❑ FGD Aksara Pegon 11-12 Oktober 2022 dan Kongres Pegon 21-23 Oktober 2022
  - ❑ Standarisasi karakter Pegon
  - ❑ Standarisasi tata tulis Pegon
  - ❑ Standarisasi transliterasi Pegon - Latin



Terima kasih

ماتور نووون

CREDITS: This presentation template was created  
by **Slidesgo**, including icons by **Flaticon**, and  
infographics & images by **Freepik**



فريپيكون