

AUTHORSHIP VERIFICATION TOOLKIT FOR DETECTING IRREGULAR OR AI-INFLUENCED WRITING

A process-driven system for ensuring authentic learner writing in the age of generative AI.

Problem / Market Need

Educational institutions and training providers increasingly face challenges in verifying whether written work is genuinely produced by learners. The rapid rise of generative AI tools, human–AI hybrid writing, and outsourced assignment preparation has made traditional detection methods unreliable. Current tools often produce false positives, miss edited AI content, or fail to consider a learner’s writing history.

This creates risks to academic integrity, assessment validity, accreditation, and trust in learner performance

Description of Solution / Technology

The Authorship Verification Toolkit is a software-based system designed to evaluate the authenticity of learner writing by analysing authorship consistency over time.

Instead of relying on surface-level detection, the system uses patterns in writing behaviour, academic referencing habits, and stylistic indicators to help determine whether a submission aligns with the learner’s established writing profile.

It provides educators and assessors with interpretable, context-aware insights that support fair and responsible decision-making.

Key Benefits / Advantages

- Detects inconsistencies that may indicate AI involvement or ghost writing
- Harder to bypass than conventional AI detectors
- Supports academic integrity frameworks across sectors
- Designed for multilingual educational environments
- Compatible with LMS platforms and digital assessment systems
- Provides interpretable outputs tailored for educators and assessors

Applications / Relevant Industries

- Higher Education Institutions
- Schools (public and private)
- Corporate Training and Professional Development
- EdTech Providers and LMS Platforms
- Accreditation and Quality Assurance Bodies
- Sector Education and Training Authorities (SETAs)

Stage of Development

The toolkit is at an early functional stage (TRL 3) with the core concept demonstrated and validated using sample datasets.

The next phase involves refining the system, testing within real learning environments, and preparing for integration with institutional or commercial platforms.

It is available for co-development, pilot testing, and deployment discussions with interested partners.

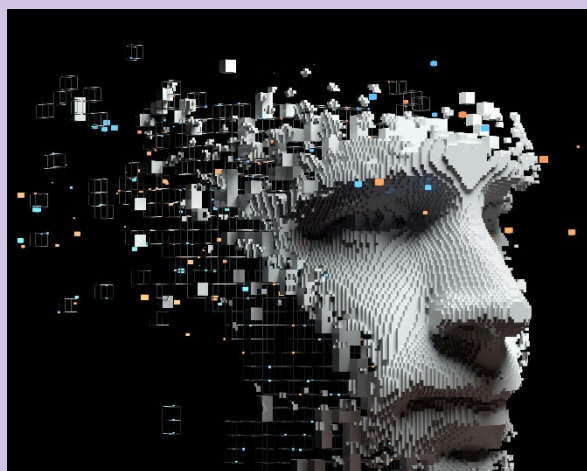
Intellectual Property Status

The Authorship Verification Toolkit is being developed at North-West University. All resulting intellectual property is owned by NWU and may be licensed to partners through standard commercialisation or collaboration agreements.

Opportunity

Industry partners are invited to collaborate through:

- Co-development of system features and user interfaces
- Pilot testing with real learners or platform users
- Deployment into LMS or broader EdTech ecosystems



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