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NATIONAL CENTRE FOR SCIENTIFIC RESEARCH
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INTERDEPARTMENTAL POSTGRADUATE PROGRAMME:
SPECIALIZATION IN ICTs AND SPECIAL EDUCATION – PSYCHOPEDAGOGY OF INCLUSION

MASTER'S THESIS

''Use of Artificial Intelligence for the Diagnosis and Support of Individuals with Autism Spectrum Disorder''

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ΠΕΡΙΛΗΨΗ

Η παρούσα εργασία έχει ως αντικείμενο τη διερεύνηση της συμβολής της Τεχνητής Νοημοσύνης στη διάγνωση και υποστήριξη ατόμων με Διαταραχή Αυτιστικού Φάσματος. Σκοπός της είναι η καταγραφή και ανάλυση διαγνωστικών εργαλείων τα οποία βασιζόμενα σε αλγορίθμους μηχανικής και βαθιάς μάθησης μπορούν να βελτιώσουν την ακρίβεια και την ταχύτητα της διαγνωστικής διαδικασίας, καθώς και ψηφιακών εφαρμογών παρέμβασης που αξιοποιούν λειτουργίες όπως η ρομποτική και οι κινητές εφαρμογές για την ενίσχυση κοινωνικών, ψυχικών και καθημερινών δεξιοτήτων ατόμων με αυτισμό. Το είδος της εργασίας είναι η βιβλιογραφική ανασκόπηση ερευνητικών άρθρων της τελευταίας δεκαετίας, βασιζόμενη σε κριτήρια ένταξης και αποκλεισμού για τον εντοπισμό διαγνωστικών και παρεμβατικών εργαλείων τεχνητής νοημοσύνης. Τα αποτελέσματα της έρευνας έδειξαν πως η τεχνητή νοημοσύνη συμβάλλει ουσιαστικά τόσο στη διάγνωση όσο και στην παρέμβαση ατόμων με αυτισμό, με ποσοστά διαγνωστικής ακρίβειας που φτάνουν έως και το 98% και παρουσία αποτελεσματικών εργαλείων που βελτιώνουν την επικοινωνία, την κοινωνική αλληλεπίδραση και την αυτονομία. Επιπλέον, καταγράφηκαν σημαντικές δυνατότητες ορισμένων εφαρμογών όπως η εκμάθηση δεξιοτήτων αυτοεξυπηρέτησης και η πρόληψη αγχωτικών και επιθετικών κρίσεων με εντοπισμό έως και 3 λεπτά πριν συμβούν. Παράλληλα, εντοπίστηκαν ορισμένοι περιορισμοί που σχετίζονται με τον μικρό αριθμό δειγμάτων και την έλλειψη αντιπροσωπευτικότητας. Καταληκτικά, η ανασκόπηση αυτή φανερώνει πως η τεχνητή νοημοσύνη δεν έχει έρθει για την αντικατάσταση των επαγγελματιών ψυχικής υγείας, αλλά δύναται, υπό προϋποθέσεις, να αποτελέσει ένα σημαντικό εργαλείο που μπορεί να ενισχύσει σε μεγάλο βαθμό την έγκαιρη διάγνωση και την αποτελεσματική παρέμβαση παιδιών με ΔΑΦ.

Λέξεις-κλειδιά: Διαταραχή Αυτιστικού Φάσματος, ΔΑΦ, Τεχνητή Νοημοσύνη, Μηχανική Μάθηση, Βαθιά Μάθηση, διάγνωση, υποστήριξη, παρέμβαση, εφαρμογές κινητών, δεξιότητες, αυτονομία

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