# INTELLIGENT SYSTEM FOR FORENSIC HANDWRITING IDENTIFICATION

# WHO WE ARE

JAS Technologie Ltd. is a Polish innovation and implementation company (SME) operating in two main areas:

- border security and
- crime prevention.

In these two business areas we use our technology competencies covering: biometrics (image, fingerprints, behaviour etc.), artificial intelligence, image analysis, telecommunications and security systems. Our recent two R&D projects (already started) refer to automatic analysis of suspicious behaviour (travellers and prisoners) as well as risk classification of travellers and prisoners. Moreover, we have extensive experience in Polish security printing business (IDs, passports etc.).

# WHO WE ARE

Examples of our expertise:

- Intelligent decision support system based on algorithmic image analysis in the activities of justice services → a 2019 project for the Polish Ministry of Justice and the Prison Guard;
- iBorder Ctrl (Intelligent Portable Control System) → a Horizon 2020 project enabling faster and thorough border control for third country nationals crossing the land borders of EU, bringing together many state of the art technologies (hardware and software) ranging from biometric verification, automated deception detection, document authentication and risk assessment;
- Environment to implement the concept of Smart Borders → a project for the Polish Border Guard;
- Development of an energy-saving biometric set for mobile document and person control using acoustic systems and face imaging→ a project for the Polish Border Guard;
- Improving the process of border checks of persons using biometric devices for self-monitoring of persons and control of means of transport crossing the EU external border → a project for the Polish Border Guard;
- Modern Artificial Intelligence algorithms in the analysis of geotechnical data.

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- Based on a catalog of international varieties of handwriting graphic character designs (to be developed).
- Aims:
  - an objective, categorical conclusion concerning an examined handwriting sample and a confidence interval,
  - a universal tool to be applied in Latin alphabet countries.
- Why?
  - a high level of subjectivity of contemporary forensic examinations of handwriting,
  - no population databases of handwriting identification features,
  - no statistical measures of identification values of handwriting and signatures.
- What to do:
  - identify handwriting identification features and measure their frequency in different countries,
  - build international population databases of handwriting identification features,
  - build an AI component responsible for forensic examination of handwriting samples.

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- We cooperate with the Central Forensic Laboratory of Police in Poland and Polish Forensic Society as well as some European police forencic labs.
- Our role: project or task coordinator.
- Looking for partners:
  - other end-users (police forensic laboratories)
  - technology providers
  - experts in handwriting examination (universities and Police)
  - potential coordinator

- Proposal activitiy:
  - Technologies to enhance the fight against crime and terrorism SU-FCT02; Subtopic: Open
  - Secure and resilient Artificial Intelligence technologies, tools and solutions in support of Law Enforcement and citizen protection, cybersecurity operations and prevention and protection against adversarial Artificial Intelligence; SU-AI02-2020

# CONTACT


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