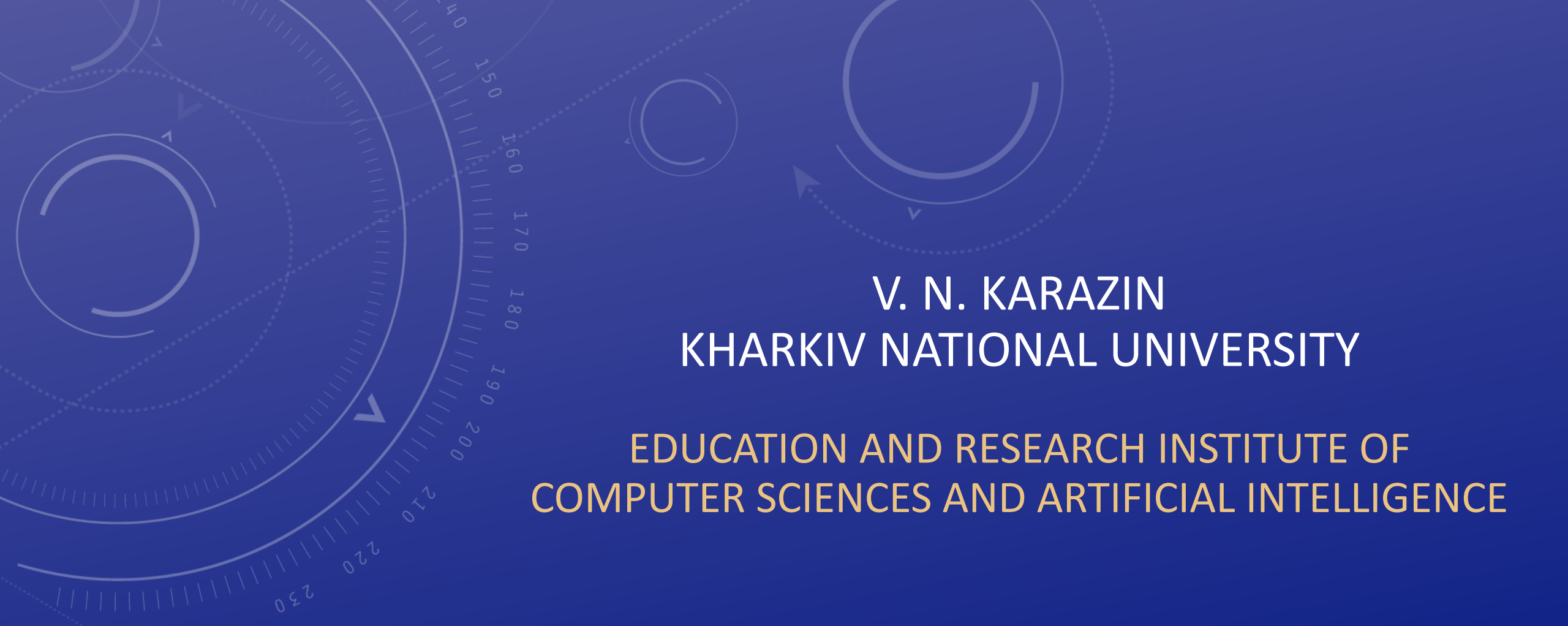


The background of the slide is a solid dark blue. On the left side, there is a large, semi-circular scale with white tick marks and numbers ranging from 140 to 230. Overlaid on this and the rest of the background are several faint, light blue circular patterns, some of which are dashed or have arrows, suggesting a technical or scientific theme.

V. N. KARAZIN
KHARKIV NATIONAL UNIVERSITY

EDUCATION AND RESEARCH INSTITUTE OF
COMPUTER SCIENCES AND ARTIFICIAL INTELLIGENCE

INTRODUCTION



Dr. Dmytro Uzlov, PhD in Engineering

Director of “Education and Research Institute of Computer Sciences and Artificial Intelligence”



Second-year PhD student at the Department of Cybersecurity of Information Systems

Senior lector at Department of Intelligent Software Systems and Technologies

Chief software engineer in EPAM Systems

DEPARTMENT OF CYBERSECURITY OF INFORMATION SYSTEMS, NETWORKS, AND TECHNOLOGIES

Theory of Distributed
Information Resources;
Protection of Databases
and Knowledge Bases

Cryptographic
Information Protection

Steganographic
Information Protection

Technical Information
Protection

Mathematical Methods
and Models in
Cybersecurity

Testing, Monitoring, and
Auditing of Information
and Communication
Systems for Security
Threats

Application of
Specialized Programming
Languages in
Cybersecurity

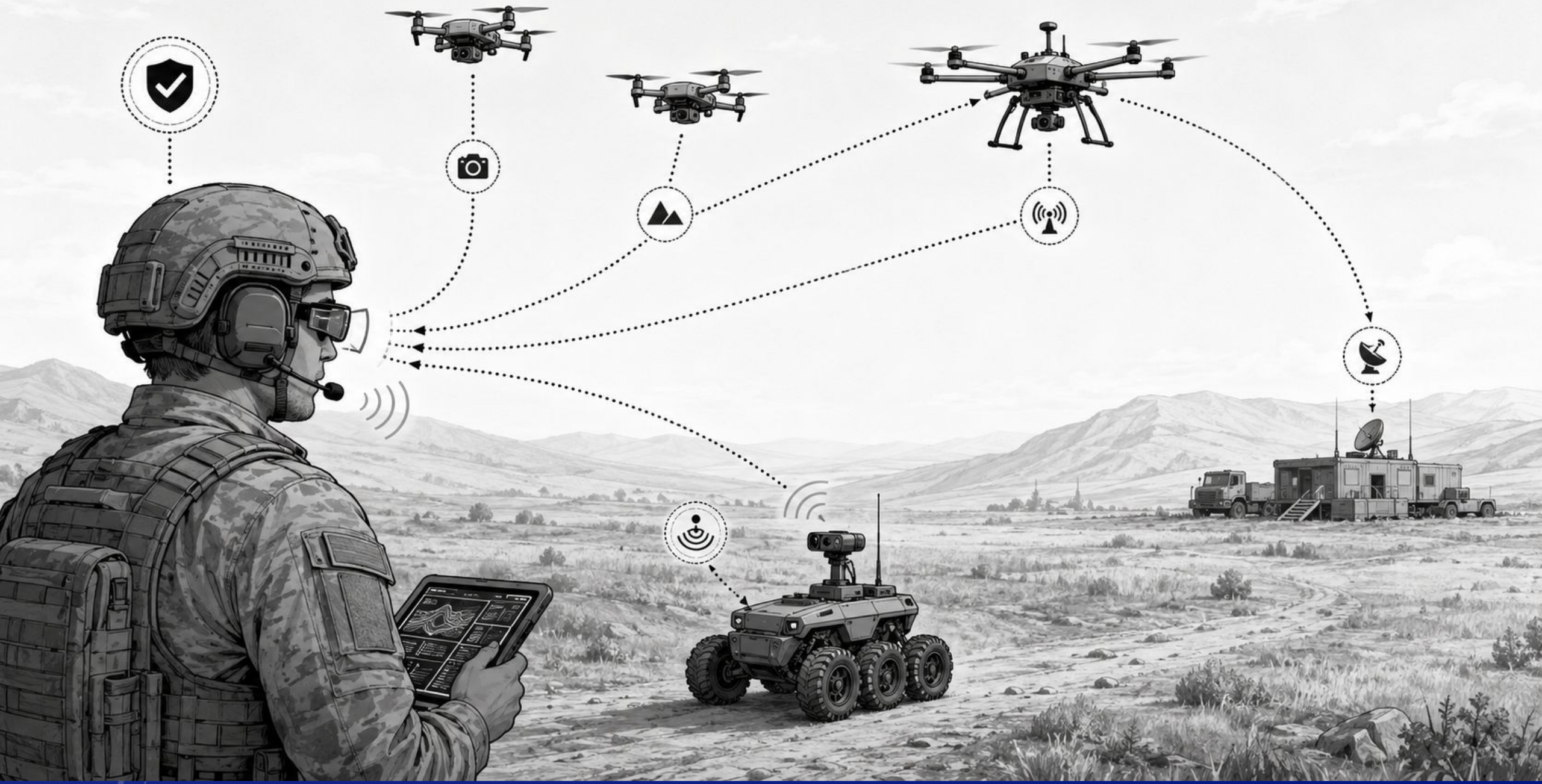
Development and
Research of Information
and Telecommunication
Systems with
Guaranteed Security

Modern Information
Technologies and Their
Application in
Cybersecurity

Standardization in
Cybersecurity and
Information Security
Management

Head of the department: Maryna Vitaliivna Yesina, PhD (Engineering), Associate Professor.

Practical Motivation: Human-Robot Team Interaction



Research Focus: Biometric Authentication of the Operator



CURRENT RESEARCH DIRECTION

Voice Recognition

Face Recognition

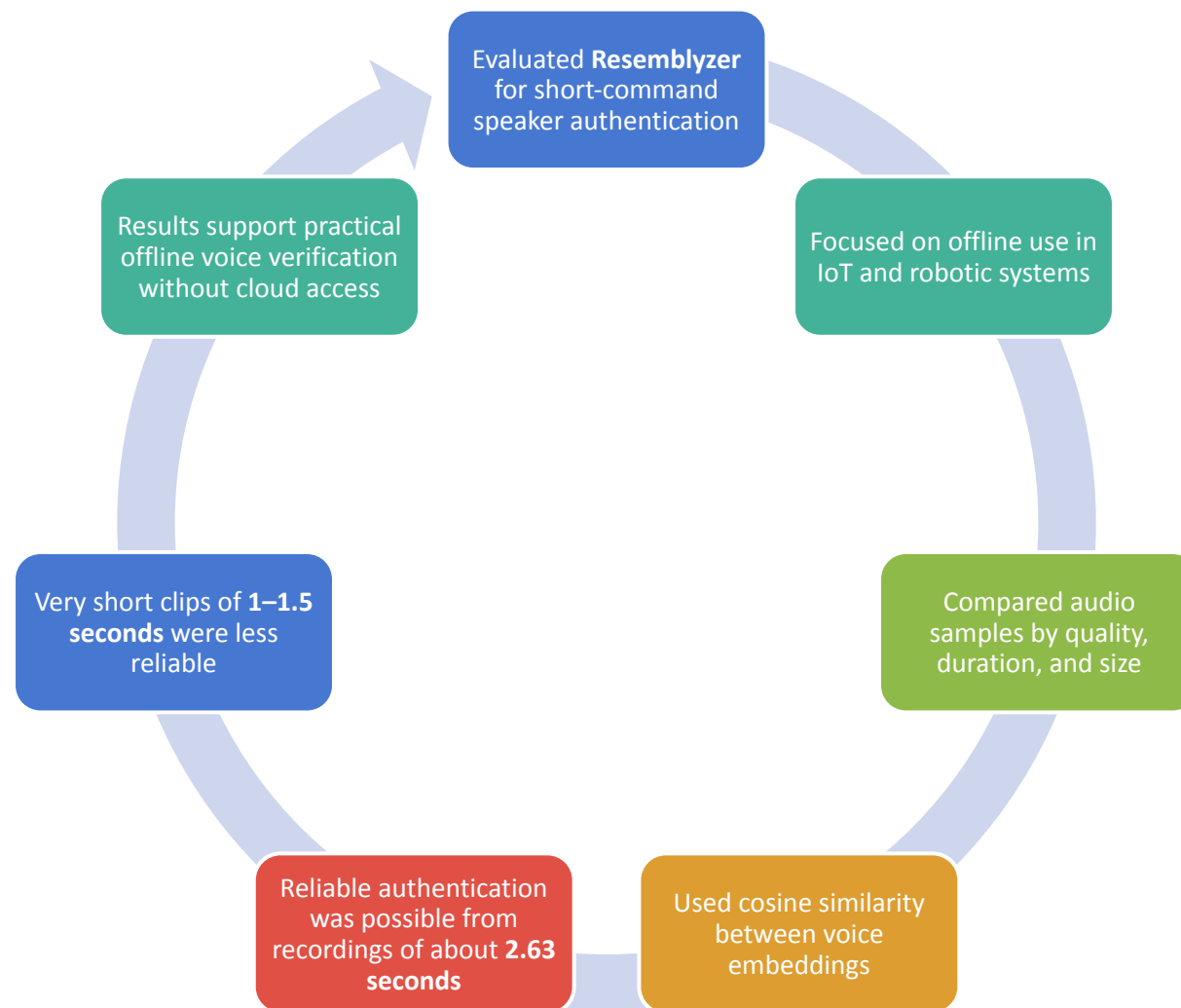
Gesture Recognition

Ear-based Recognition

Lip movement
Recognition

Adaptive Multimodal
Authentication Algorithm

VOICE-BASED AUTHENTICATION WITH RESEMBLYZER



Article: Evaluation of Resemblyzer Ability to Authenticate the Person by Short Audio Records



FACE-BASED AUTHENTICATION WITH INSIGHTFACE

- ❑ Evaluated InsightFace with the pre-trained buffalo_l model
- ❑ Focused on face detection and same-person verification
- ❑ Decomposed MP4 video files into frame sequences for testing
- ❑ Used cosine similarity between face embeddings

FACE-BASED AUTHENTICATION WITH INSIGHTFACE

- ❑ Tested different distances and visual conditions
- ❑ Take into consideration areas of face hidden by glasses or hat
- ❑ Observed that verification confidence decreased with distance, head pose, and facial occlusion



Article (under review): Evaluation of InsightFace for Person Identification Under Non-Ideal Visual Conditions



Thank you for
your attention