

Ethically Compliant Vision-Language AI: A Two-Phase Innovation Framework

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Overview

This project aims to create the first fully compliant, ethically sourced computer vision dataset for Generative AI Vision-Language Models (VLMs) in the EU, and to leverage this dataset to fine-tune a cutting-edge VLM. Focused on regulatory integrity, data diversity, and AI relevance, this initiative aligns with the EU's legal frameworks, including GDPR and the AI Act, ensuring both transparency and fairness in the development of generative AI technologies. The final output will be made publicly available under a controlled access license, facilitating Europe's AI ambitions without compromising ethical standards.

Phase 1: Compliant Dataset Creation

Objective: Build a large-scale, anonymized, human-validated dataset suitable for training and evaluating vision-language generative AI models, in full alignment with EU legal and ethical standards.

- **Legal & Ethical Governance:** Leveraging the **Project Hafnia** framework, the dataset will be sourced using fair-value agreements, anonymized, encrypted, and processed under strict GDPR and AI Act compliance. Third-party data access will be strictly prohibited at any stage.
- **Domain-Driven Use Cases:** The dataset will focus on high-value, domain-specific use cases (e.g., traffic systems and public venues), allowing for relevant data collection that can later be expanded to other sectors.
- **Data Validation:** A hybrid validation pipeline will be employed, combining **automated tools with manual QA** to ensure labeling accuracy and mitigate annotation errors.
- **Bias Mitigation:** A key emphasis will be placed on ensuring **dataset balance** by curating diverse scenarios and applying targeted data augmentation to address underrepresented edge cases.
- **Tech Stack:** The dataset will be powered by **Nvidia NeMo Curator** and **DGX Cloud**, enabling scalable curation of high-resolution visual data at industrial scale.
- **Video Duration and Quantity:** The ideal dataset will contain **approximately 10,000 hours of video data**, sourced, for example, from 60 cameras recording continuously for one week or 100 cameras for four days. This will ensure a robust and comprehensive dataset for AI training.
- **Camera Specifications:** The video data will be recorded by **outdoor cameras** all related to the **same domain** (e.g., public venues, traffic systems). Specifications will include a minimum resolution of 720p and a frame rate of over 10fps. The cameras should ideally be connected to XProtect servers and record in motion-detection mode.
- **Data Retrieval Process:** The video data will be retrieved via a **secured hardware device** sent to the recording centers.
 1. Cameras (recordings) to be accessed will be located in the recording servers.
 2. The secured device will be physically connected to the Milestone recording servers (could be connected to backup servers if available) to avoid sending the data through public networks with the risk of data leakage.
 3. The video database will be copied (following back-up strategy, so no downtime) and automatically encrypted.
 4. The device will adhere to stringent security measures, including, for example, anti-tampering technology, trusted platform models or secure (cryptographic) erase.
 5. The data will then be uploaded to the secured data center, again physically attaching the device to data center servers, if possible (or using a secured Milestone network if not), guaranteeing secure storage and transfer into the data library.
- **Anonymization Process:** The anonymization of data will take place as the **first step in the pipeline**.
 1. Milestone will handle the anonymization before processing the data retrieved.
 2. **Personally identifiable information (PII) is removed, e.g. faces or license plates.**
 3. Anonymization is **non-reversible**, using state-of-the-art techniques to ensure maximum data quality.
 4. Only NO-PII data will be used in the AI models or stored in the dataset library.

Phase 2: VLM Fine-Tuning

Objective: Fine-tune a state-of-the-art Vision-Language Model (VLM) based on the compliant dataset, optimizing it for semantic relevance and captioning precision, while maintaining full compliance with legal and ethical standards.

- **Base Model:** Fine-tuning will be performed on NVila-like model, a variant of Nvidia's VILA architecture, optimized for high-resolution video understanding and image captioning.
- **Training Goals:** The fine-tuning process will focus on:
 1. Increasing **contextual alignment** with target use cases.
 2. Enhancing **interpretability** and **relevance** of model outputs.
 3. Minimizing pre-existing model **biases** through strategic rebalancing.
- **Evaluation:** State-of-the-art benchmarking will be used to evaluate the model's performance in areas such as **bias** mitigation, **relevance**, and **captioning quality**.
- **Integration with VLM Fine-Tuning:** The fine-tuning process will occur in a secure data center compliant with EU legislation, using a hybrid of Milestone and Nvidia technologies.
- The data will be cropped, cleaned, and filtered for relevance (e.g., removing empty or repetitive scenes), followed by semi-automated annotation where human annotators, aided by AI, will provide descriptions of the scenes.
- The annotated video clips, along with their summaries, will form the core database used to fine-tune the VLM, aligning the model's capabilities to the real-world scenarios depicted in the videos.

Timing: The Proof of Concept (PoC) will be completed when the VLM is fine-tuned and tested. While the dataset will be made available by June, the fine-tuning process may extend beyond this date, depending on the progress of data preparation. While there are no hard deadlines for fine-tuning, all participants will prioritize completing the PoC as soon as possible.

Outcomes & Access

- **Public Availability:** Both the compliant dataset and the fine-tuned VLM will be made publicly available through a paid-access license model, ensuring ethical distribution and controlled usage.
- **Strategic Value:** This initiative empowers EU-based organizations to build or fine-tune computer vision and AI applications on a foundation of fully compliant and ethically sourced data.
- **Scalability:** While the focus is initially on video data, the framework is designed to scale across multiple domains and modalities, enabling future expansion and adaptation. Both the dataset and fine-tuned VLM will be made available to the public under a paid-access license model.

Terms for the project

This agreement ("Agreement") is entered on the date of the last signature hereto by and between [Genoa] ("Video Provider") and Milestone Systems A/S, CVR 20341130, Banemarksvej 50, 2605 Brøndby, Denmark ("Milestone"), collectively referred to as the Parties.

1 Background

1.1 This Agreement is entered to complete the work described in the Scope of Work (SoW).

2 Definitions

2.1 For the purposes of this Agreement, the following terms shall have the meaning set forth below.

2.1.1 "Agreement" means this Data License Agreement, including any appendices and amendments agreed upon by the parties.

"Confidential Information" shall mean any information exchanged under this Agreement between the Parties if identified as such at disclosure, or if the circumstances of disclosure would reasonably indicate such treatment.

"Curated Video" refers to Video that Milestone processes, enhances, or modifies, for example by adding structured metadata, annotations, and any other enhancements that make it more useful for training, optimizing, and fine-tuning machine learning models. This includes but is not limited to all modifications, anonymization, adaptations, analyses, annotations, metadata, models, and insights, regardless of whether such data incorporate or reference Video.

2.1.2 "License to Data" or "LTD" means the rights granted to Milestone that allow for the lawful use of Video as described in this Agreement.

2.1.3 "SOW" means the signed Scope of Work attached to this Agreement, which forms an integral part of this Agreement.

2.1.4 "Video" refers to any video datasets, metadata, annotations, other timeseries data that gives video context, and related materials provided to Milestone under this Agreement as detailed in the SOW.

3 License to Data (LTD)

4 Costs

5 Scope of Services

5.1 The Parties shall deliver the services specified in the SoW.

6 Ownership of Curated Video

6.1 VP retains ownership of original Video but grants Milestone the rights to use it as specified in this Agreement.

6.2 Milestone shall own all intellectual property rights in Curated Video.

7 Compliance with Applicable Laws

7.1 Each Party agrees to comply with all applicable laws, regulations, and industry standards relevant to its obligations and activities under this Agreement, including but not limited to data protection, privacy, and security laws. Each Party shall ensure that any data it handles in connection with this Agreement is done in a lawful and compliant manner.

8 Warranties

8.1 VP represents and warrants that:

- It has the right to provide Video to Milestone.
- Video and its sharing with Milestone comply with all applicable laws and regulations and does not breach any other agreement to which VP is party or is bound.

- There are no known legal disputes, regulatory investigations, or pending claims against Video that would materially affect its use by Milestone.
- Video and its sharing with Milestone do not infringe any third-party intellectual property rights.

8.2 VP warrants that VP has used reasonable efforts to ensure that Video is free from malware, viruses, spyware, or other malicious code that could damage or disrupt Milestone's systems or hardware.

9 Assignment of Obligations

9.1 Neither Party shall be entitled to assign its rights or delegate its obligations under this Agreement without the prior written consent of the other Party, which shall not be unreasonably withheld or delayed. Each Party may, however, assign all its rights and obligations under this Agreement to any of its affiliates.

10 Term and Termination

- 10.1 This Agreement shall commence on the date of the last signature below and shall remain in effect unless terminated in accordance with the terms herein. Either Party may terminate this Agreement for convenience upon 90 days' advance written notice. Either Party may terminate this Agreement for cause in the event of a material breach of this Agreement, provided that the non-breaching Party must provide written notice of the material breach and a 30-day cure period.
- 10.2 If this Agreement is terminated, VP may stop future Video transfers to Milestone. However, the rights granted to Milestone in clause 3 (License to Data) will survive any termination of this Agreement, except for termination due to Milestone's material breach of this Agreement. In addition, the following clauses shall survive and remain in full force and effect: Ownership of Curated Video, Compliance with Applicable Laws, Indemnification, Confidentiality, Governing Law and Venue, and Miscellaneous. For the avoidance of doubt, VP shall have no right to request deletion or impose new contractual restrictions on Video that Milestone lawfully received prior to termination, except for termination due to Milestone's material breach of this Agreement.

11 Force Majeure

11.1 Neither Party shall be liable for failure to perform its obligations under this Agreement if such failure results from an event beyond their reasonable control, including but not limited to acts of God, war, strike, riot, pandemic, epidemic, governmental action, or technical failures beyond the Party's control. Each Party shall notify the other as soon as practicable and cooperate to find a reasonable solution. In case the force majeure situation is not (or is not expected to be) ended within 3 months, the other Party is entitled to terminate the Agreement with immediate effect.

12 Liability

- 12.1 Each Party shall only be liable for direct damages suffered or incurred by the other Party, to the extent such damages arise from the negligent performance or non-performance of their respective obligations under the Agreement, in accordance with the governing law.
- 12.2 Except as provided in clause 12.4, a Party's total aggregate liability under this Agreement shall not exceed 20,000.00 USD, regardless of the number of claims or the legal theory on which any claim is based.
- 12.3 Each Party shall maintain commercially reasonable insurance coverage sufficient to cover potential liabilities under this Agreement, including but not limited to data security incidents and third-party claims related to Video.
- 12.4 Nothing in this Agreement shall exclude or limit a Party's liability for (a) fraud, willful misconduct, or gross negligence; (b) breach of clause 15 (Confidentiality); (c) a Party's indemnification obligations under clause 13 (Indemnification); or (d) any liability that cannot be excluded or limited under governing law.

13 Indemnification

- 13.1 VP agrees to indemnify, defend and hold Milestone and its Affiliates, directors, officers, shareholders, employees, and customers harmless from and against any and all third-party claims, demands, suits and actions which allege that Milestone's processing of Video as specified in this Agreement infringes any third-party intellectual property rights (an "Infringement Claim").
- 13.2 In the event of an Infringement Claim, VP shall, at its own expense, assume control of the defense and any settlement negotiations, provided that: (a) VP promptly notifies Milestone of its intention to do so; (b) VP keeps Milestone reasonably informed of material developments; and (c) no settlement may be entered into without Milestone's prior written consent if such settlement would (i) impose any liability or obligation on Milestone, (ii) require any admission of fault by Milestone, or (iii) restrict Milestone's use of Video beyond what is already required under this Agreement.
- 13.3 Without prejudice to its obligations above, VP may, at its own expense, mitigate the impact of an Infringement Claim by: (a) obtaining for Milestone the right to continue using the affected Video; (b) with Milestone's written approval, placing or modifying the affected Video to make it non-infringing, or (c) requesting in writing that Milestone ceases use of the affected Video. Milestone shall comply with any such request without undue delay, provided that VP has fulfilled its obligations under clause 13.1 and 13.2 and that the request applies only to Video subject to the claim.

14 Personal Data

- 14.1 The Parties shall comply with all privacy legislation applicable to provision of the services under this Agreement.
- 14.2 If personal data is being processed in the EU or (EU) GDPR applies to personal data shared under this Agreement, the Parties are considered independent data controllers. Each Party must take the necessary actions required under applicable data protection regulation.

15 Confidentiality

- 15.1 Confidential Information may only be used for the purpose of fulfilling obligations or exercising rights under this Agreement, and shared with affiliates, employees, agents, or contractors of the Parties which have a need to know such information to support such purpose and have signed a valid confidentiality agreement that is no less restrictive than this Agreement and applicable SOW.
- 15.2 The receiving Party shall use the same degree of care in keeping the Confidential Information confidential as it uses for its own confidential information of a similar nature. Notwithstanding this section, the receiving Party shall not disclose and/or transfer Confidential Information to affiliates that compete directly with the disclosing Party. Except as expressly provided herein, this Agreement shall not be construed as granting or conferring to the other Party, either expressly or implied, any rights, licenses, or relationships by the furnishing of Confidential Information pursuant to this Agreement.
- 15.3 Confidential Information shall remain the property of the disclosing Party. Curated Video is the exclusive property of Milestone.
- 15.4 Upon either disclosing Party's request or upon termination or expiry of this Agreement, the receiving Party agrees to, at disclosing Party's option, either (i) return to the requesting disclosing Party the Confidential Information, including any and all documents, copies and derivatives thereof, or to (ii) destroy such Confidential Information, including any and all documents, copies, and derivatives thereof, and certify to such disclosing Party in writing the fact of such destruction. The receiving Party shall not retain documents or material in any form of such Confidential Information, except that the receiving Party shall be entitled to retain, for its records, one electronic record of its deliverables for archival purposes, solely.
- 15.5 The duty to return or destroy Confidential Information shall not apply to copies of electronically exchanged Confidential Information made as a matter of routine information technology backup, provided that such Confidential Information or copies thereof shall be subject to an indefinite confidentiality obligation according to the terms and conditions set forth herein.

16 Governing Law and Venue

- 16.1 The Agreement shall be governed, interpreted, and construed in accordance with the laws of Denmark, without giving effect to its choice of law rules. The Parties hereby expressly exclude the application of the United Nations Convention on Contracts for the International Sale of Goods.
- 16.2 Any dispute arising out of or in connection with this contract, including any disputes regarding its existence, validity or termination, shall be finally settled by arbitration administered by the Danish Institute of Arbitration in accordance with the Rules of Arbitration adopted by the Board of the Danish Institute of Arbitration. The arbitration and all matters arising directly or indirectly therefrom will be kept strictly confidential by the Parties and will not be disclosed to any third party except as may be compelled by law.

17 Export control

- 17.1 Each Party shall comply with all export control and economic sanctions laws applicable to its performance under this Agreement, including the use and transfer of any products, software, technology or services subject to this Agreement.

18 Miscellaneous

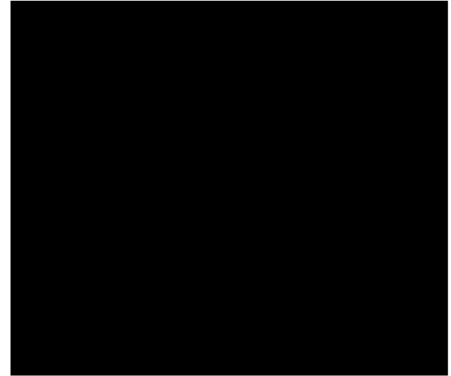
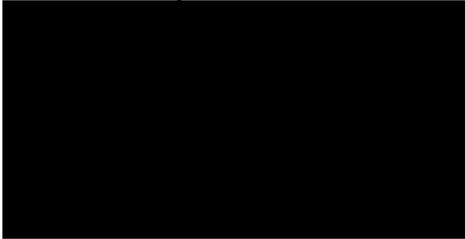
- 18.1 If any provision of this Agreement is held illegal, invalid or unenforceable in whole or in part in any jurisdiction this shall not affect the validity or enforceability in that jurisdiction of any other provision of these terms or the validity or enforceability of that provision or any other provision in any other jurisdiction. The Parties shall in good faith negotiate replacement provisions which in a legal, valid and enforceable way to the nearest extent reflect the original intent of the Parties.
- 18.2 This Agreement, together with the appendices constitutes the Parties' entire agreement relating to its subject matter. It supersedes all prior or contemporaneous, oral or written communications, proposals, conditions, representations and warranties, and it prevails over any conflicting or additional terms of any quote, purchase order, acknowledgement, or other communication between the Parties relating to its subject matter during the term of this Agreement. No modification to this Agreement will be binding, unless in writing and signed by an authorized representative of each Party.
- 18.3 Any notice given under this Agreement must be in writing addressed to an authorized representative of the other Party and shall be deemed given upon receipt of the other Party via the specifically designated e-mail and following the agreed Governance process.
- 18.4 Each Party warrants to the other Party that this Agreement has been duly authorized and executed and is valid and legally binding upon such Party and enforceable in accordance with its term

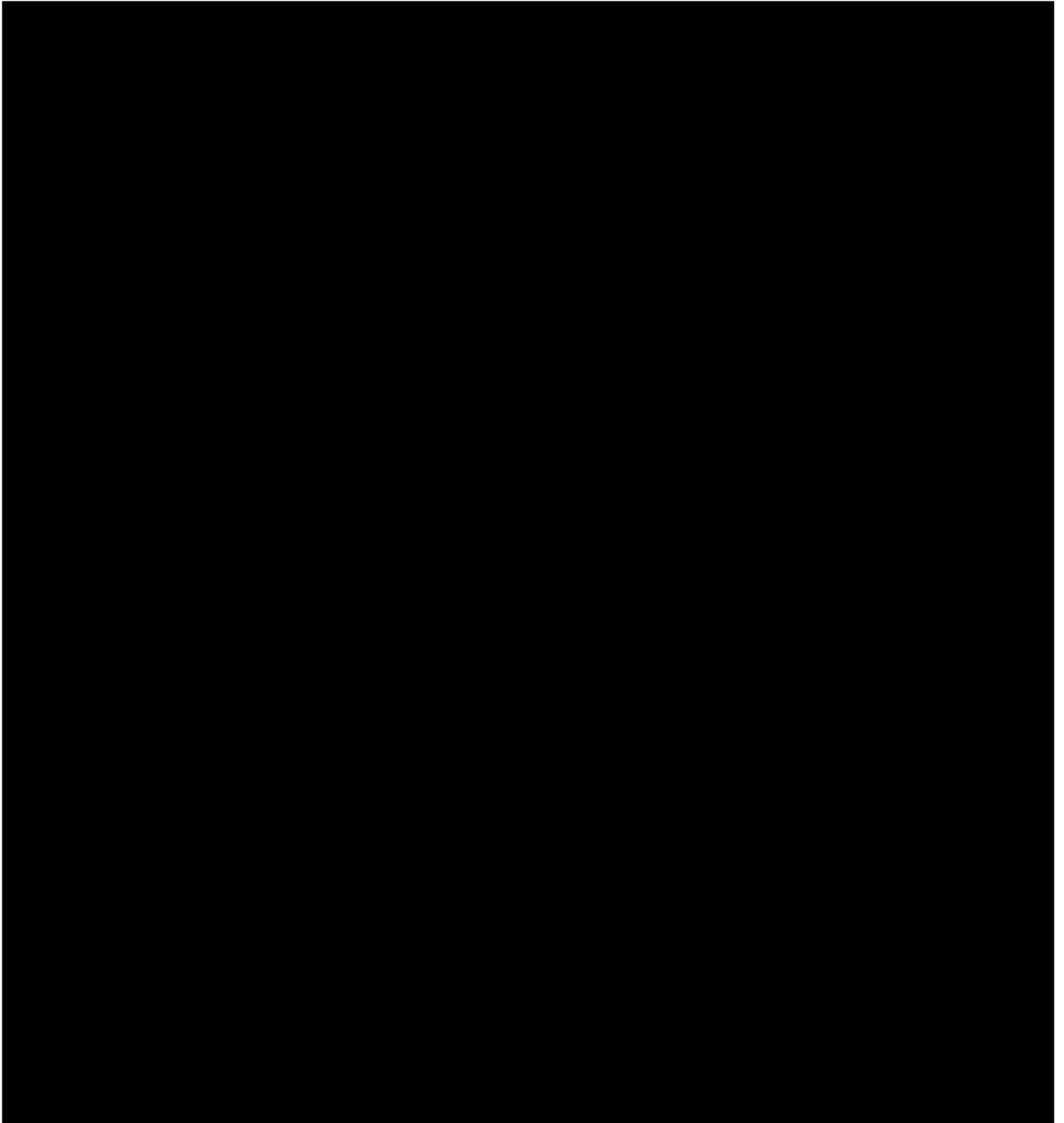
19 Signatures

- 19.1 This Agreement is delivered electronically. Each Party consents to using an electronic signature to sign this Agreement as legally binding. The electronic signatures will be stored electronically, including place and date of signing.

May 13, 2025

Milestone Systems





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