

REAL

-

TIME

VIOLENCE ALERT SYSTEM

**Guide : Ms.**

**Jayalekshmi**

**J**

**Co**

**-**

**guide : Ms.**

**Dhanya**

**L K**

**Presented By**

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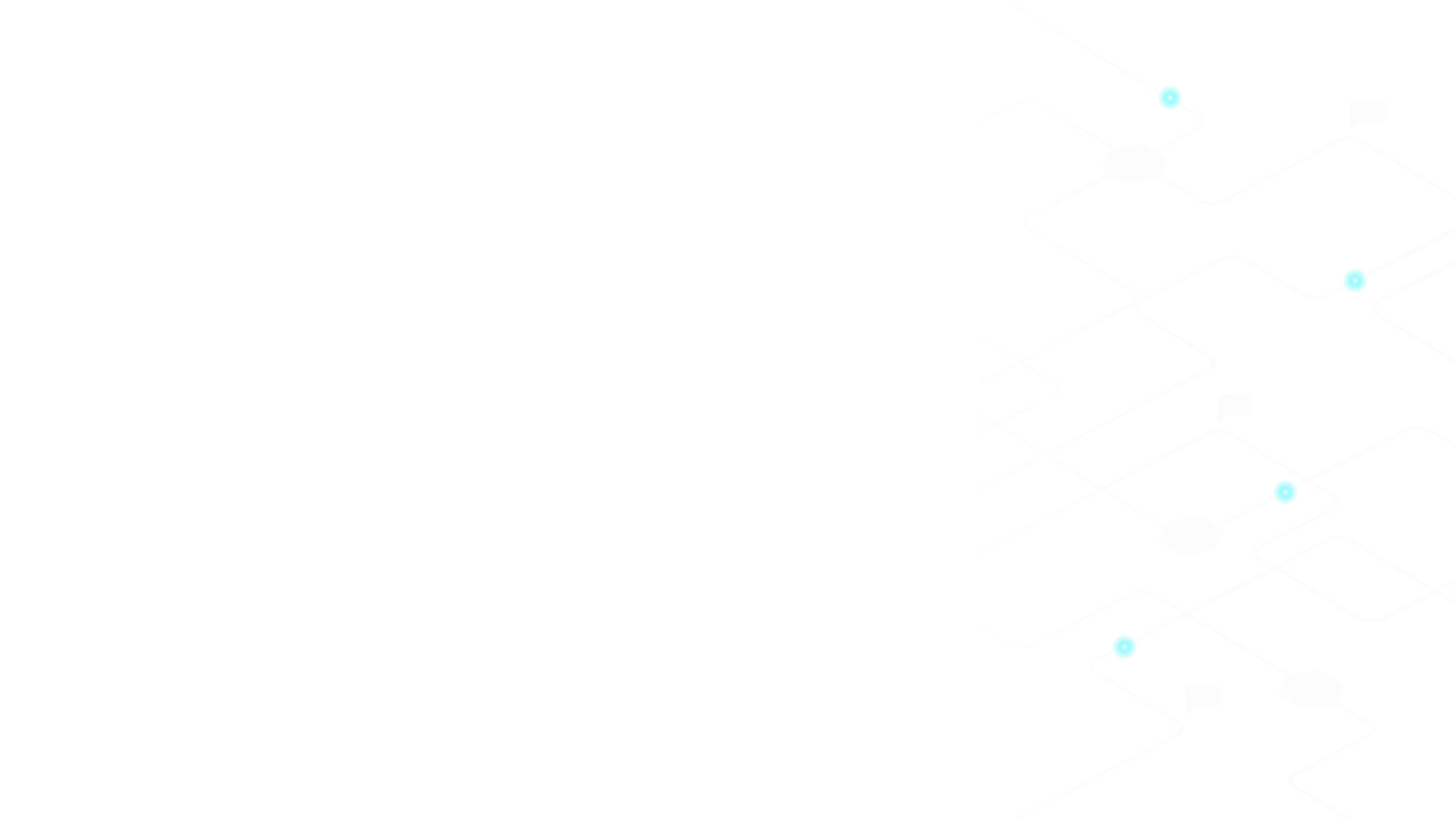
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Problem Statement

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**CCTV Surveillance is used to a greater extent but still it lacks the feature**

**of automatic violence detection**

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**Manual**

**monitoring**

**is not a feasible task and the time taken to respond**

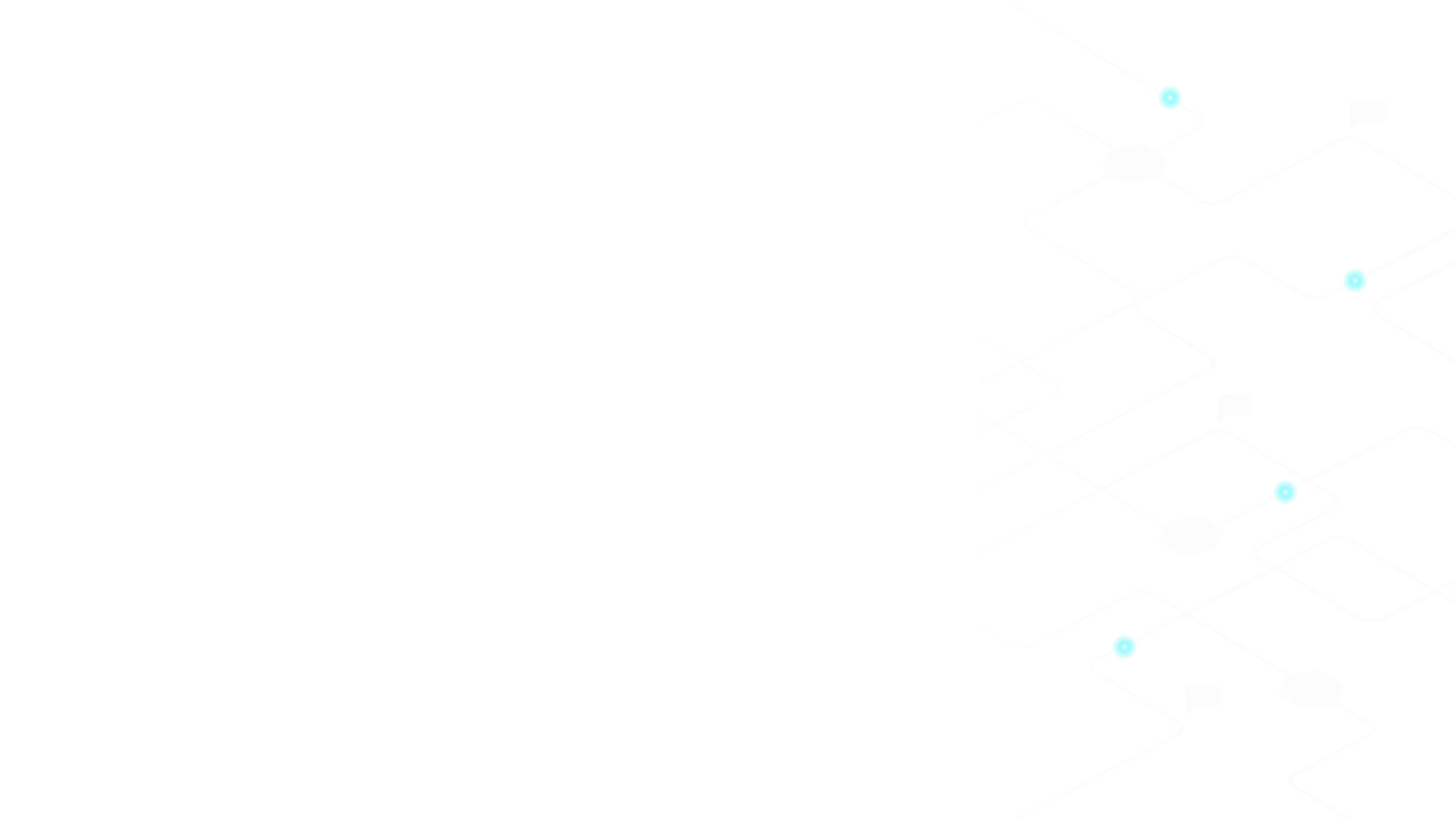
**to the situation is also crucial**

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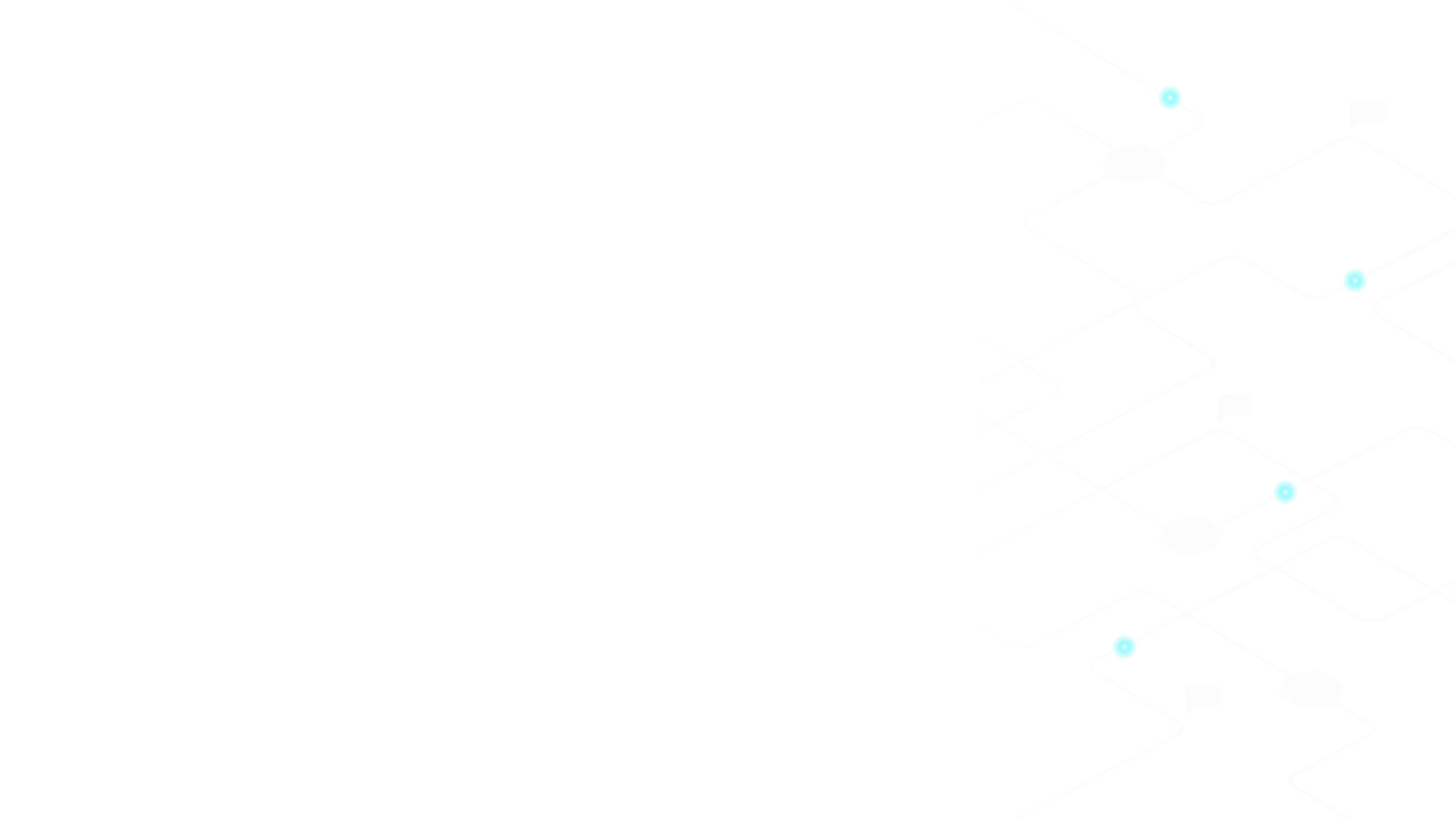
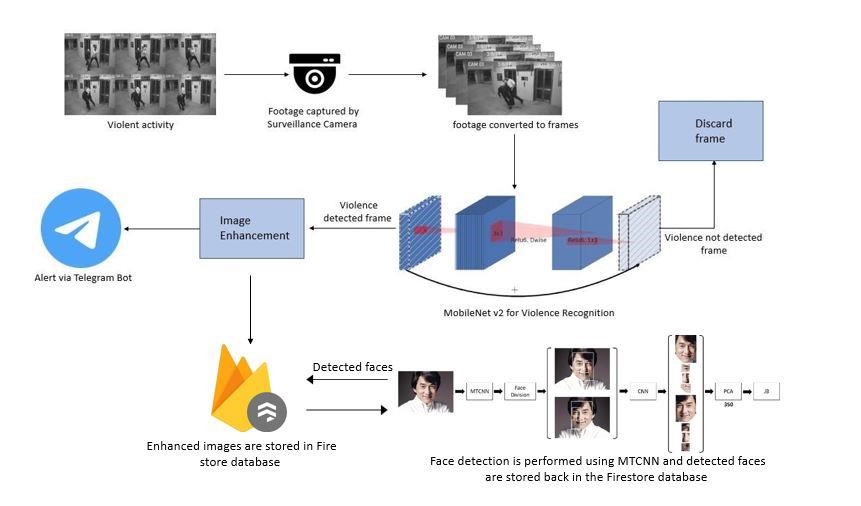
**A Real**

**-**

**Time violence alert is proposed**



Architecture Diagram



Alert Module

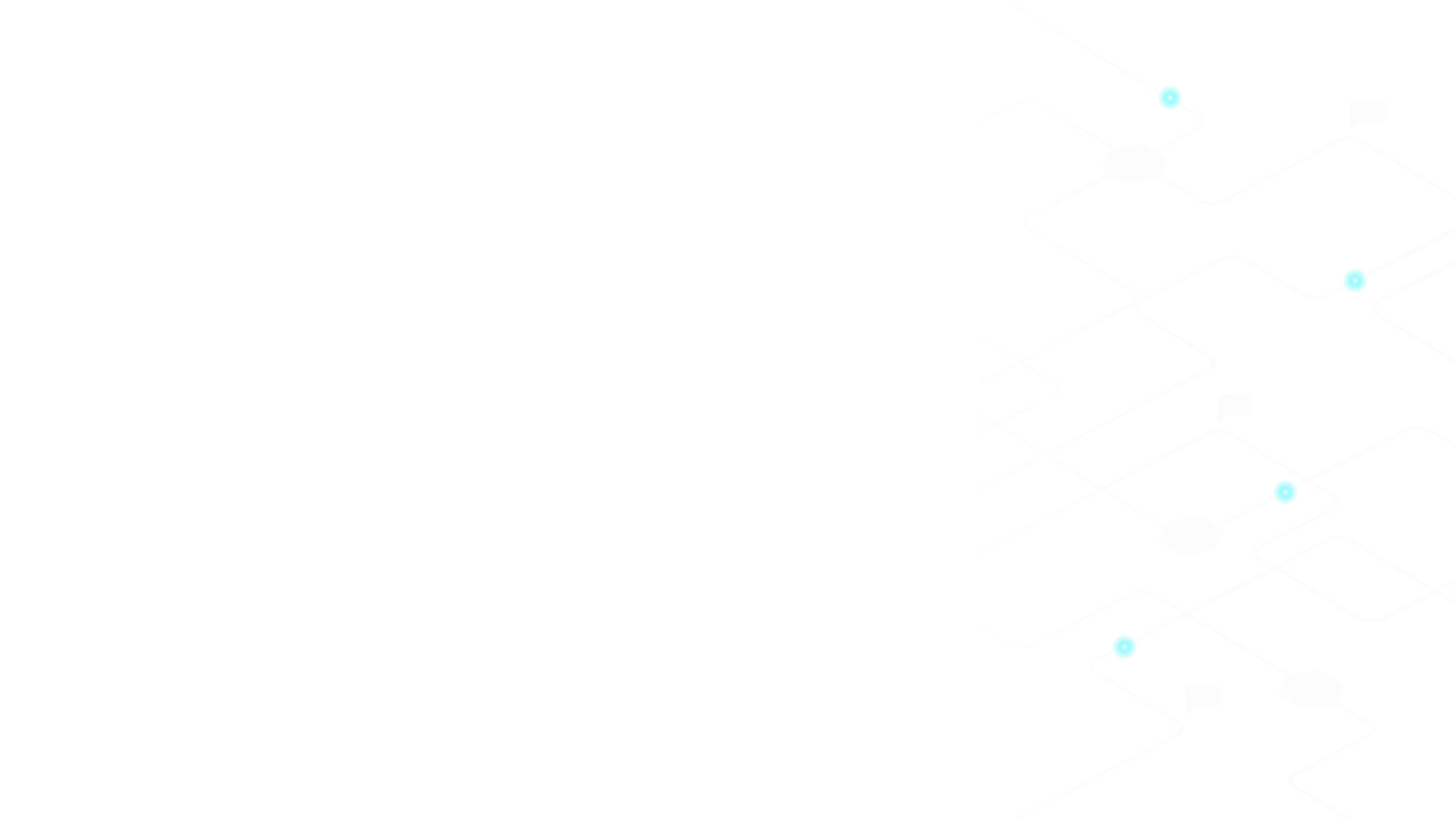
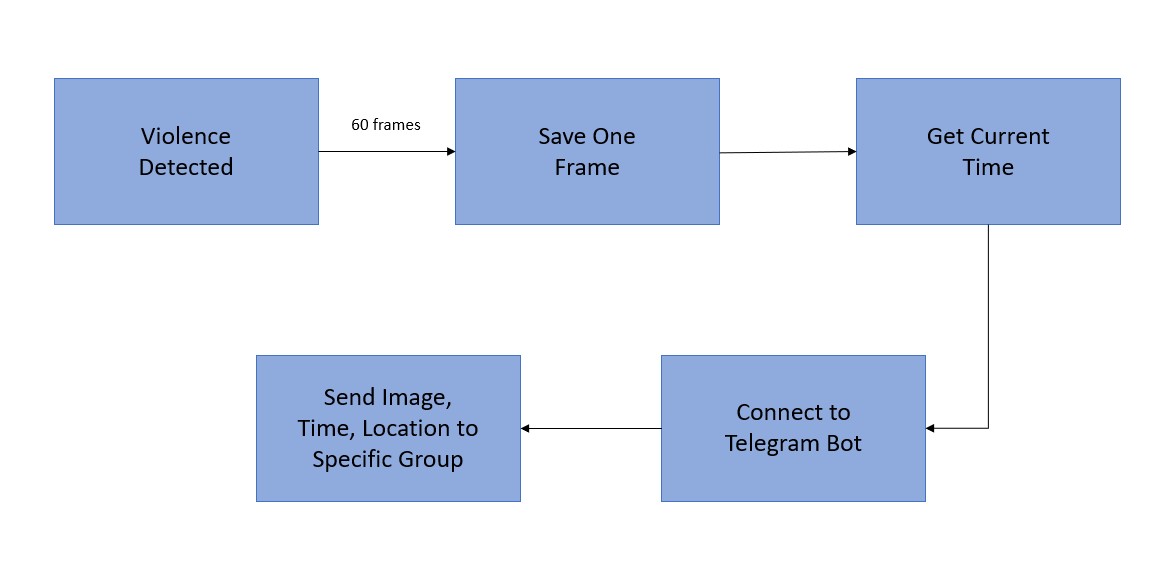


Image Enhancement

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**Sharpness and color of obtained output frames is slightly improved**

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**Uses inbuilt functions**

**–**

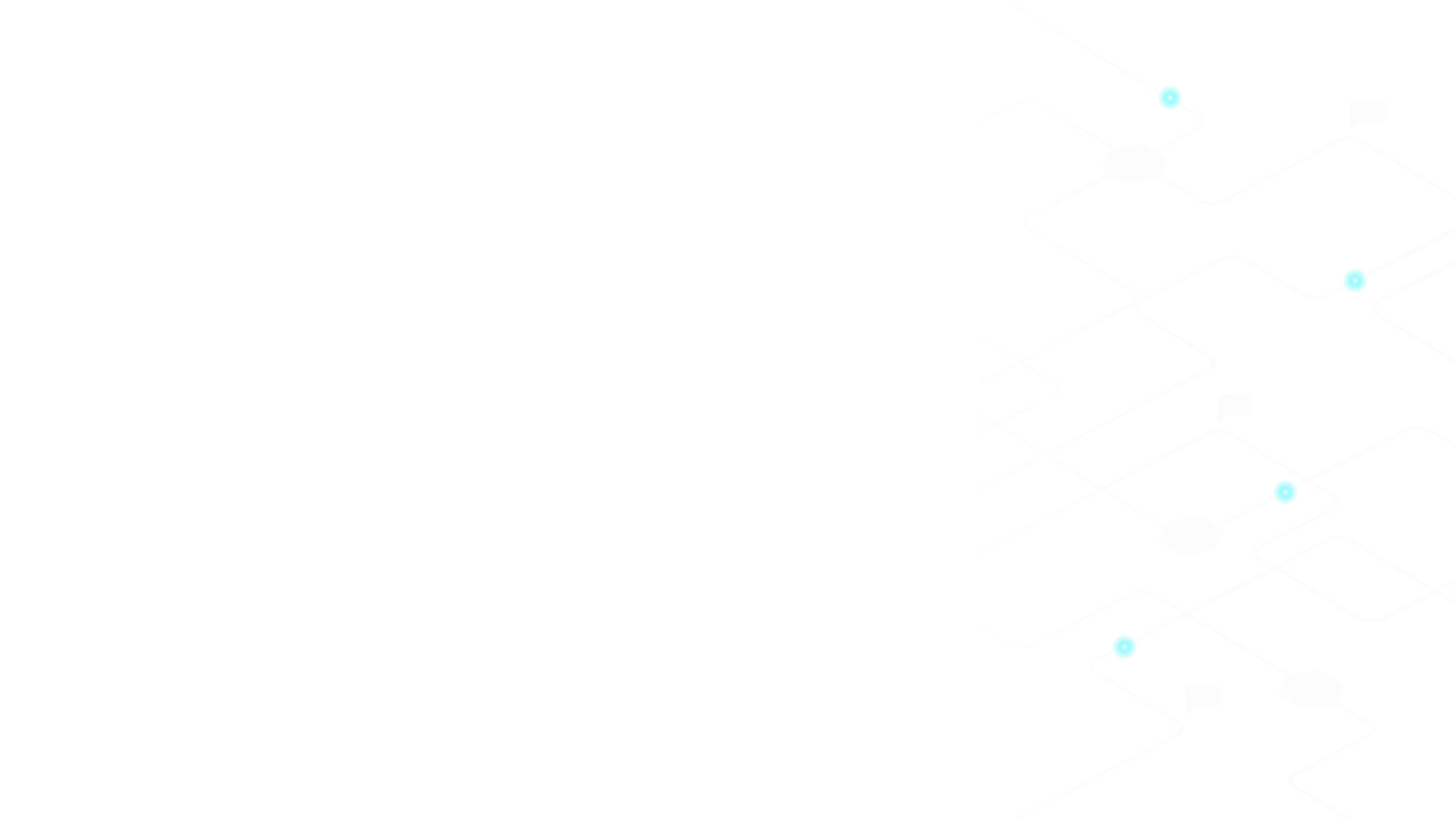
**Python PIL Library**

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**Helps authorities in face detection & cross**

**-**

**checking**



Face Detection

⬡

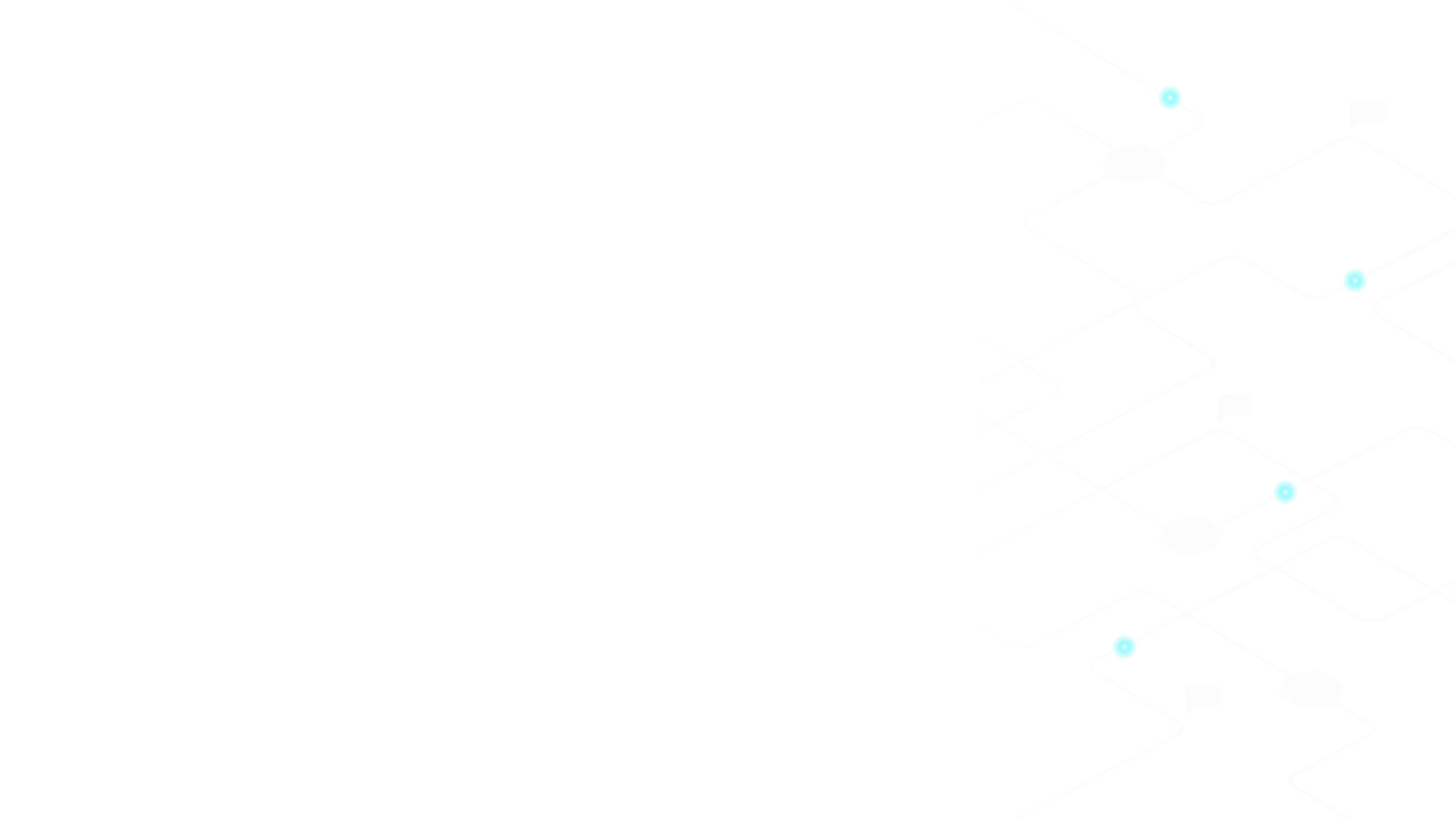
**MTCNN and Pyplot are used**

⬡

**MTCNN consists of 3 stages of CNN for face detection and face alignment**

⬡

**Pyplot is a submodule of the matplot library**



Methodology

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**A dataset having 1000 videos each of violence category and non**

**-**

**violence category was chosen**

o

**A model was trained using MobileNetV2 using the dataset**

o

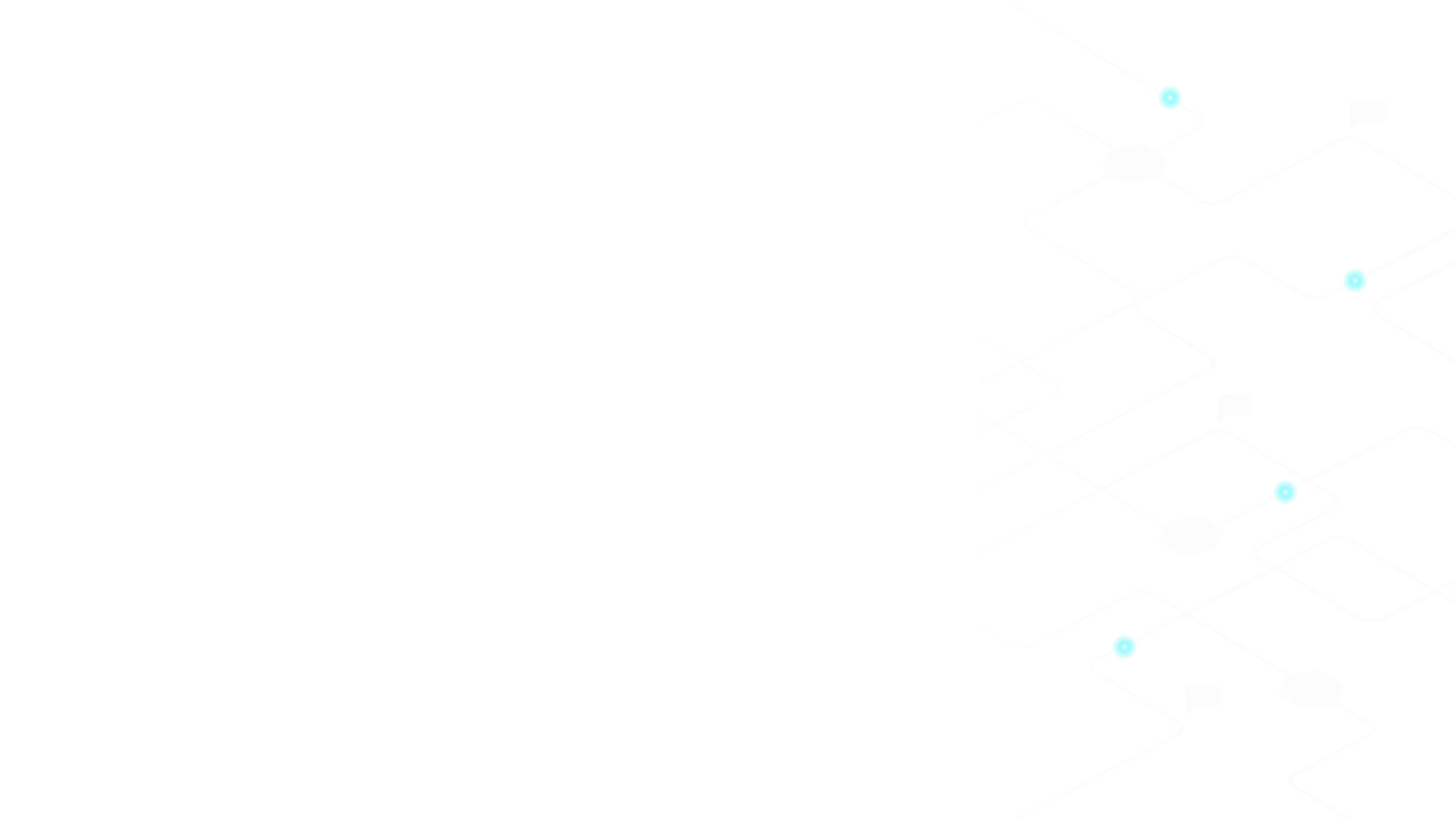
**Real**

**-**

**time video footage is given as input**

o

**Output is obtained as image frames**



MobileNet V2

o

**Convolutional neural network that is 53 layers deep**

o

**Provides real**

**-**

**time classification capabilities under computing**

**constraints in devices like smartphones.**

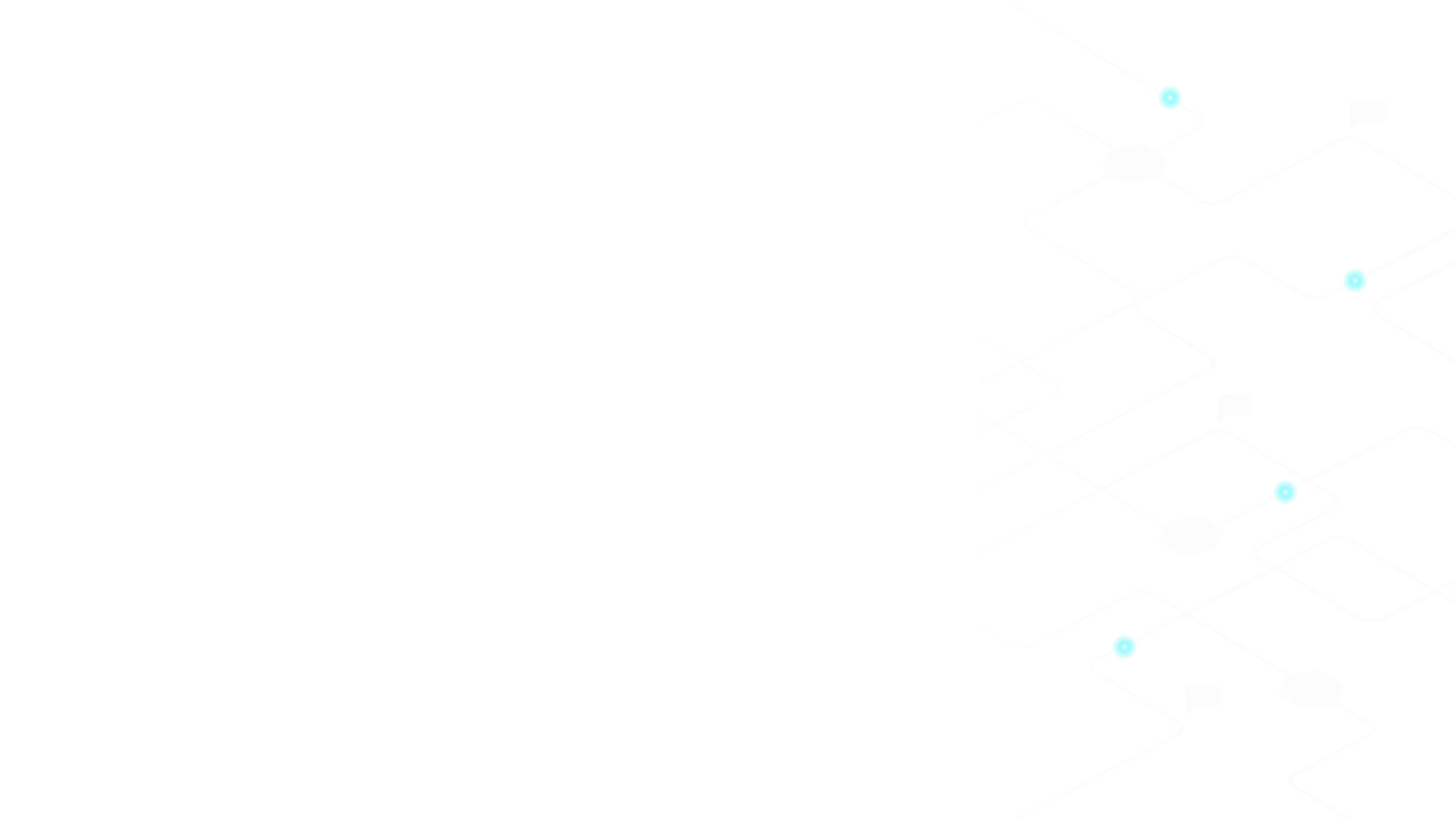
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**Utilizes an inverted residual structure where the input and output of**

**the residual blocks are thin bottleneck layers.**

o

**Uses lightweight convolutions to filter features in the expansion layer.**



Firebase

o

**Built by Google**

o

**Provides services like Storage,**

**Analysis, Machine Learning etc.**

o

**Firebase storage bucket is used to store the image**

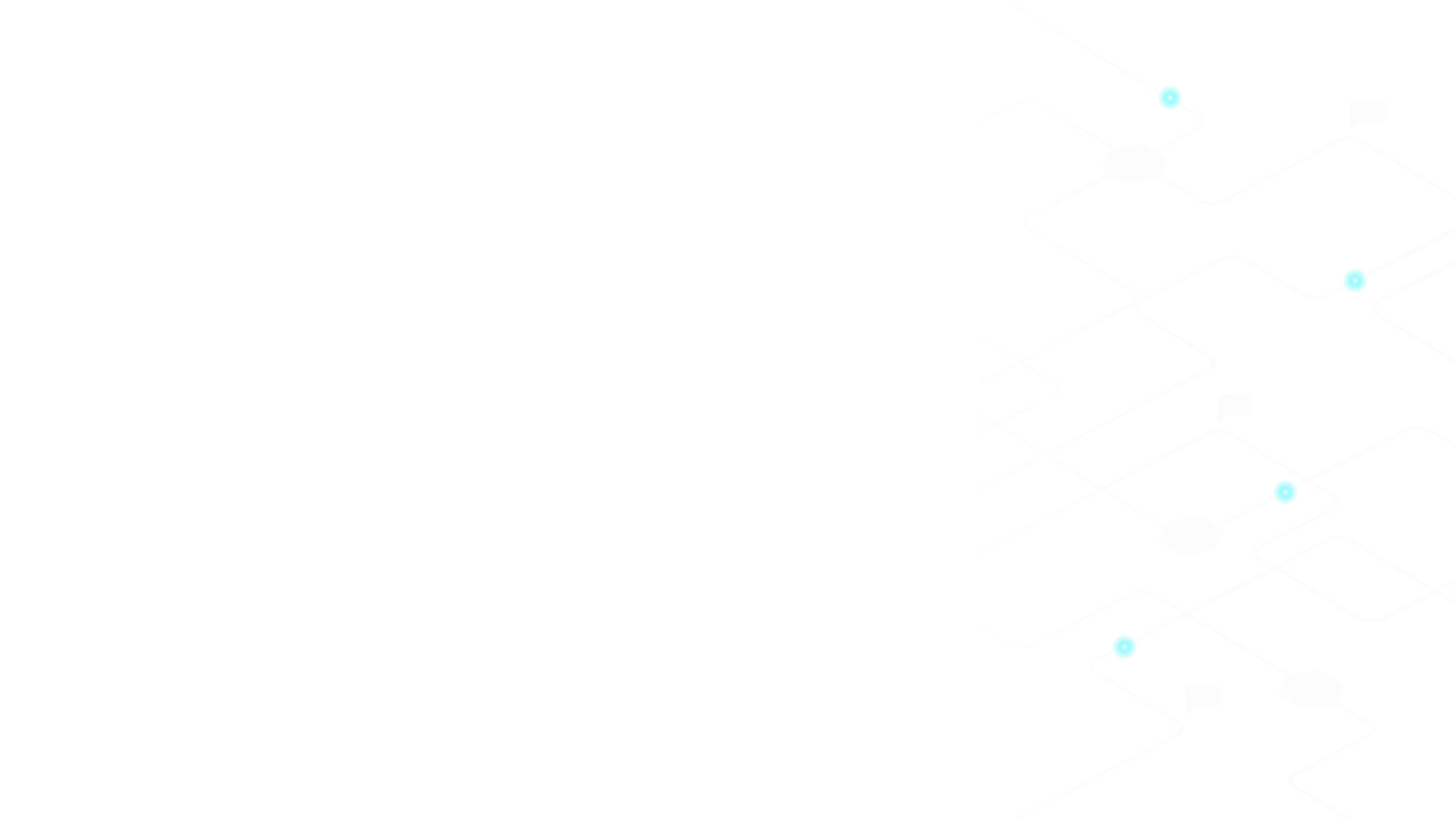
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**Links are obtained for the images and stored in**

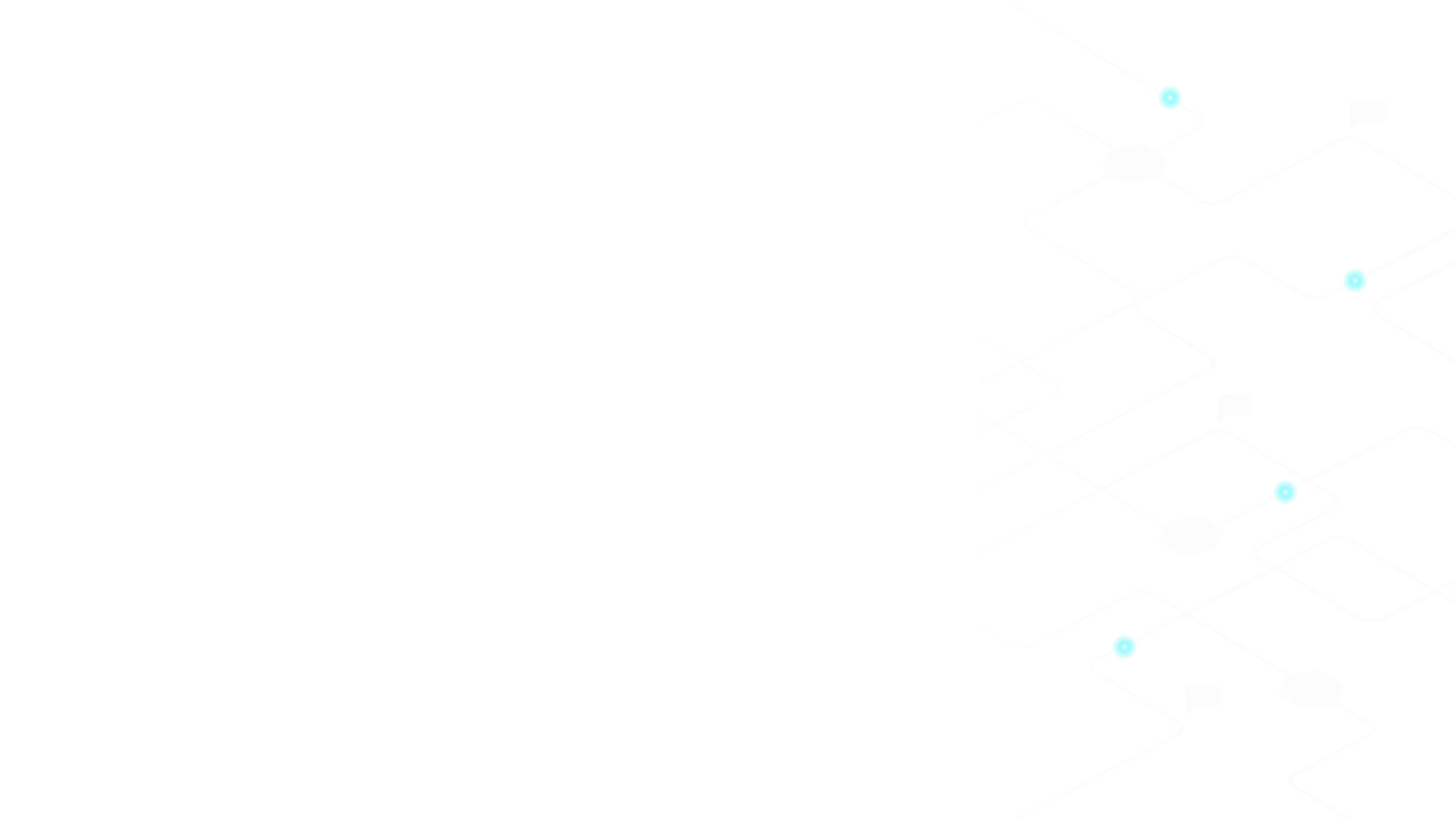
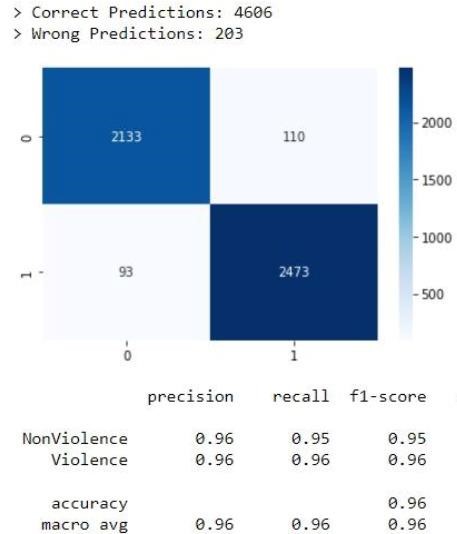
**firestore**

**along with**

**date and time**



Results



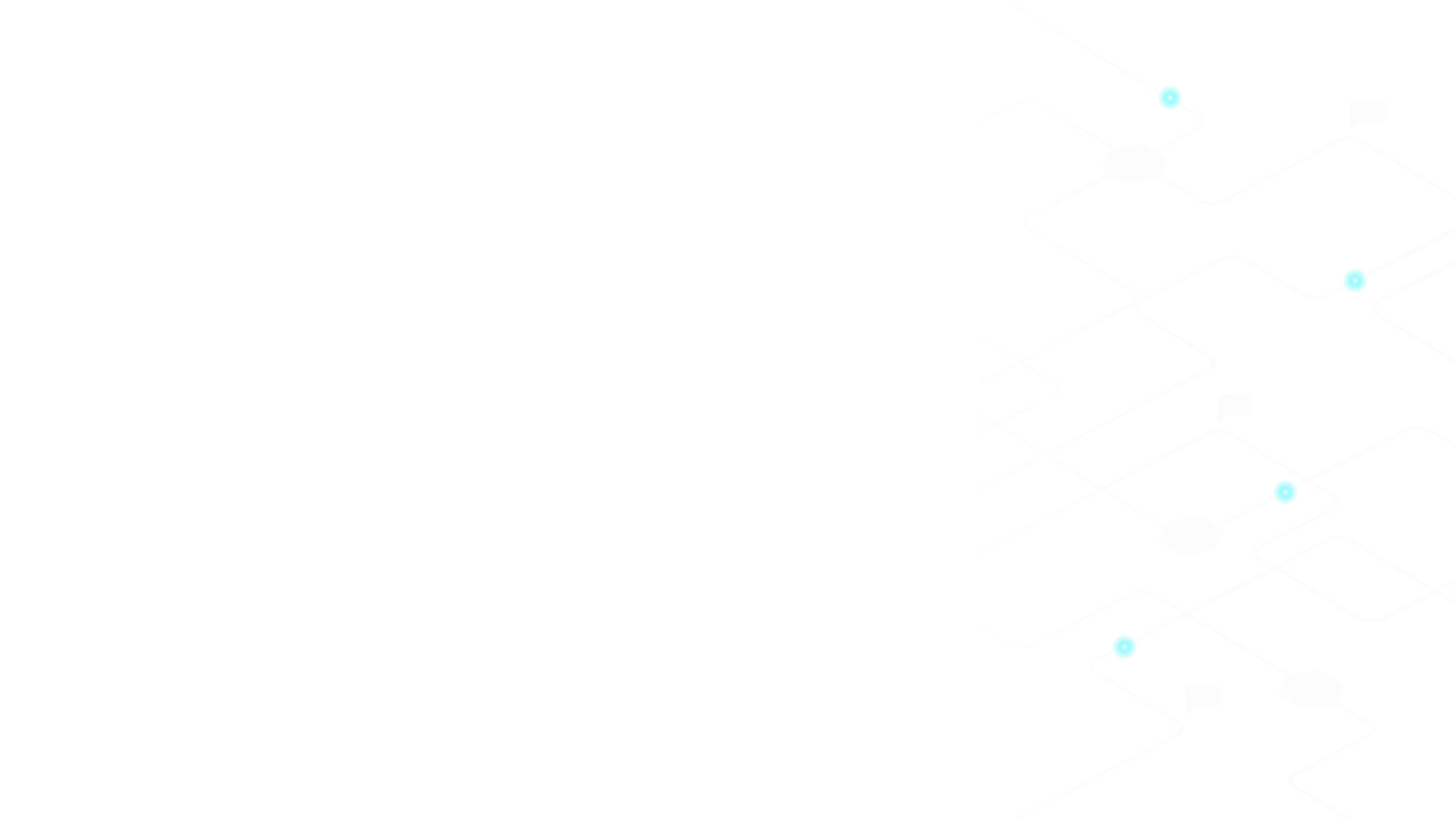
Results



References

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Novel Deep-Learning-Based Approach Towards Violence-Detection in Movies, MDPI Article Received: 3

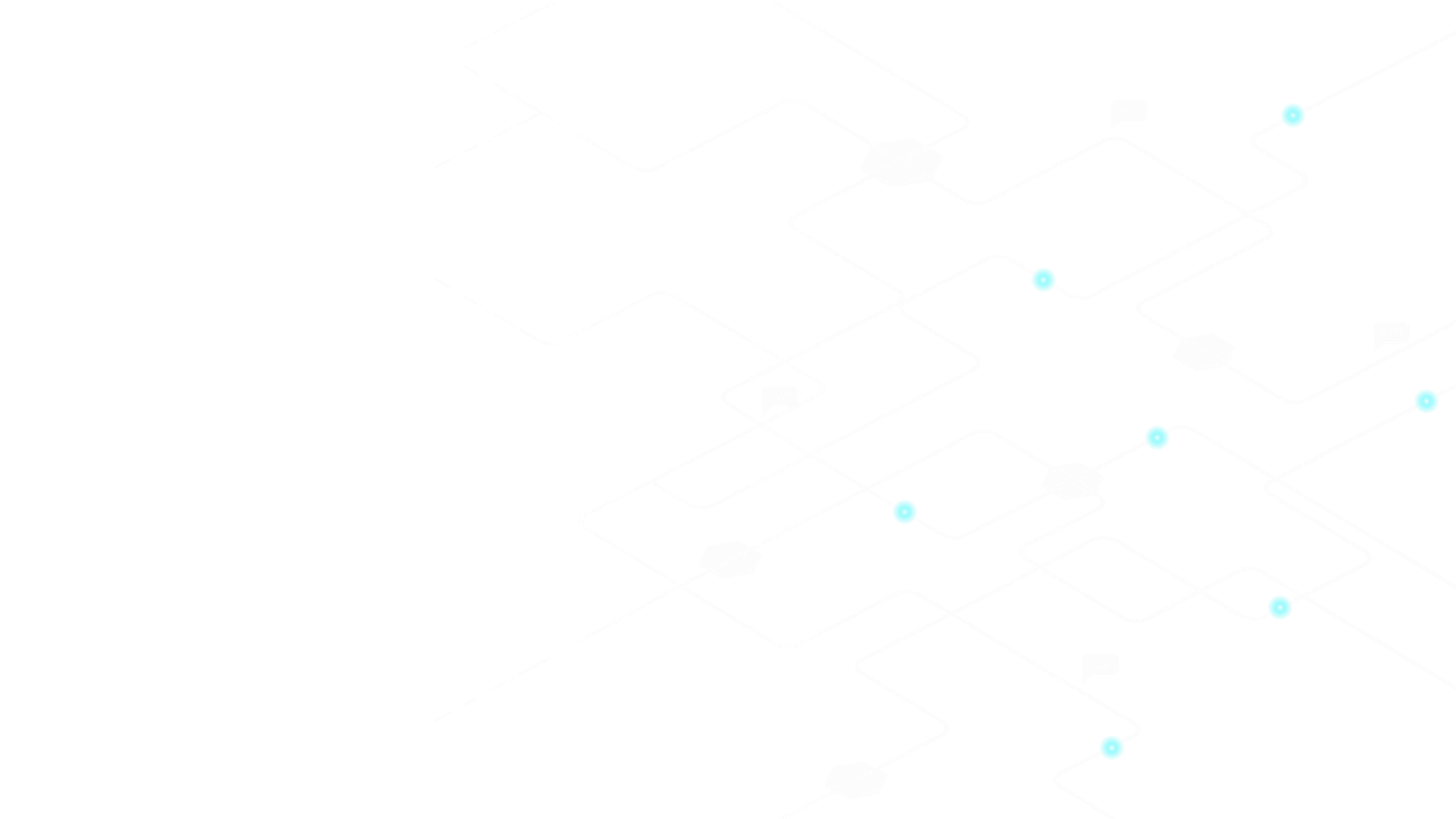
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Thank You

