Fault Prognostic via Domain Adaptation using RBC by deriving Health Index

Under the guidance of **Dr.P.AnandhaKumar sir**

Done By:-

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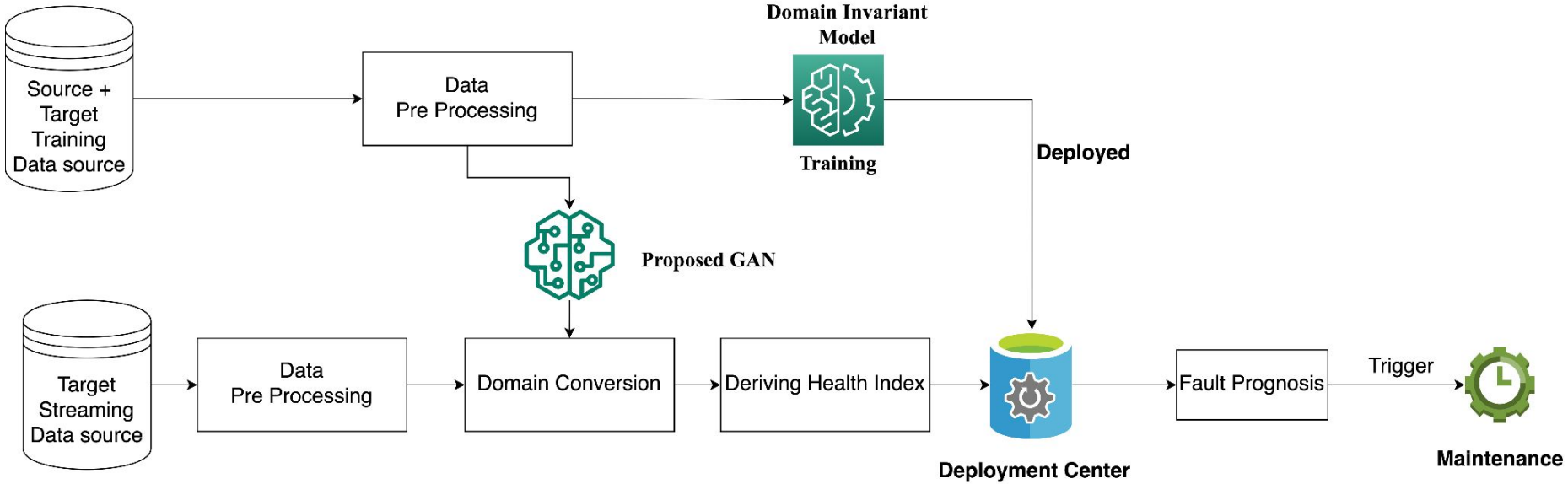
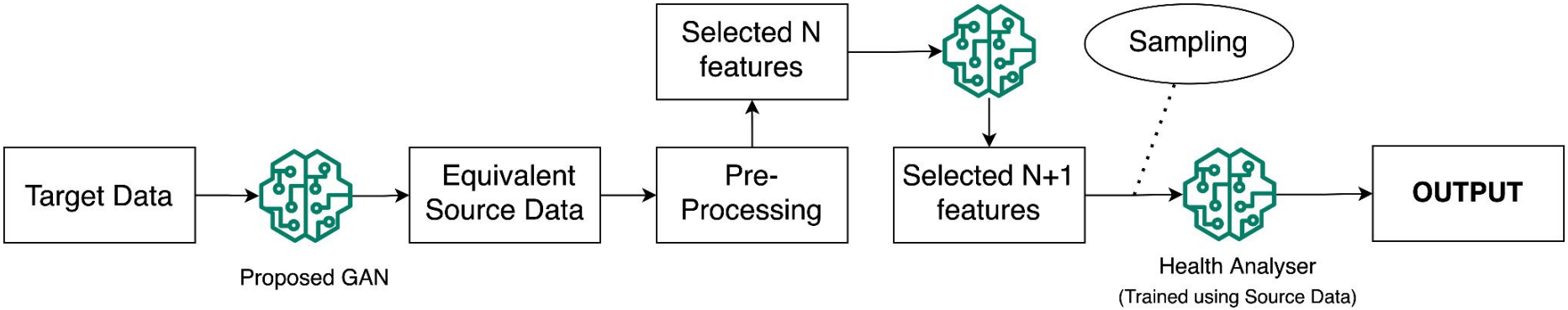
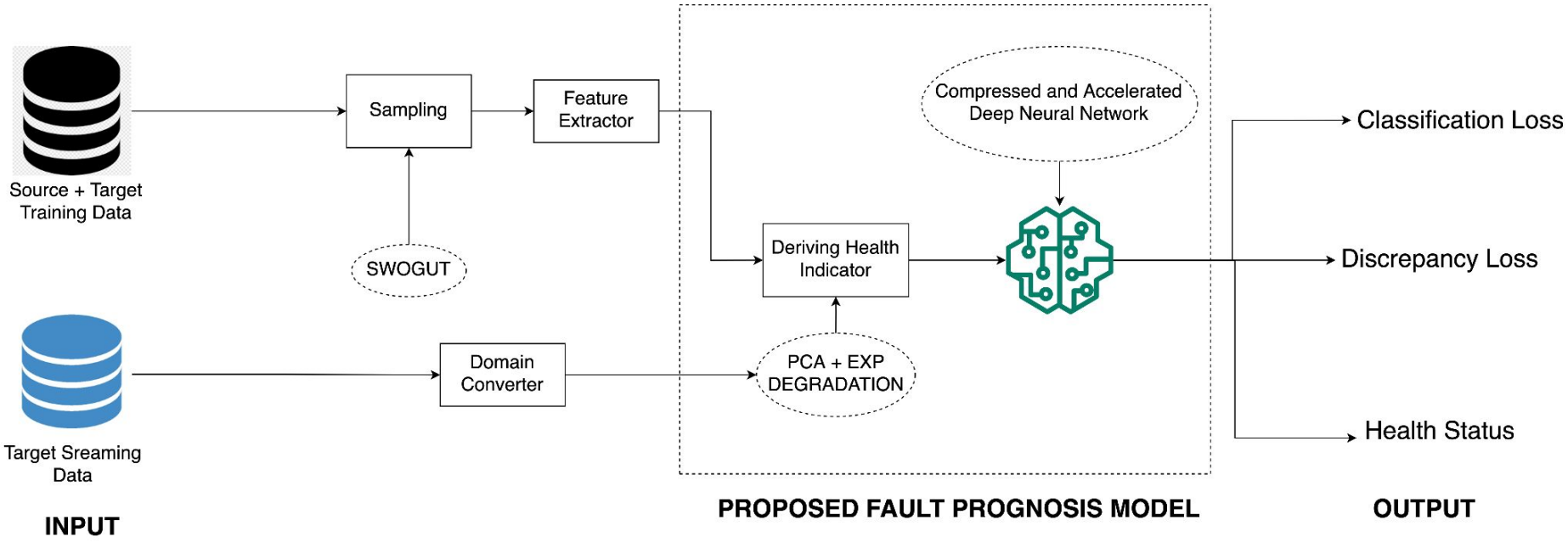
System Design



PROCESS FLOW



ARCHITECTURE OF PROPOSED MODEL



DEMO LINK:

Dataset:

https://drive.google.com/drive/folders/1GZL4DSwmChwIBlZX3weMVGop-pg62vvw?usp=sharing

Health Indicator :

https://colab.research.google.com/drive/1QRxBfWQAZVcj1x2GDRrmM3tCFODvVi74?usp=sharing

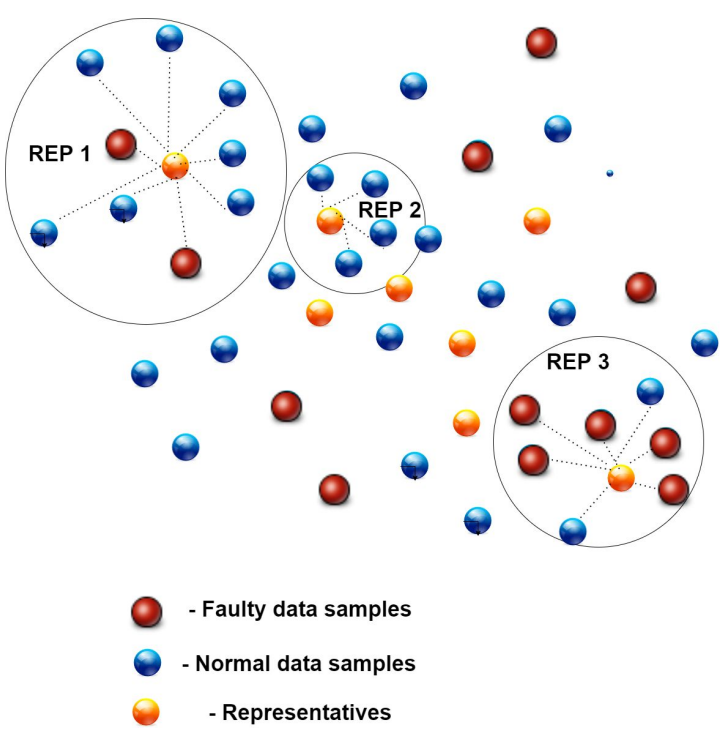
Representation based Learning:

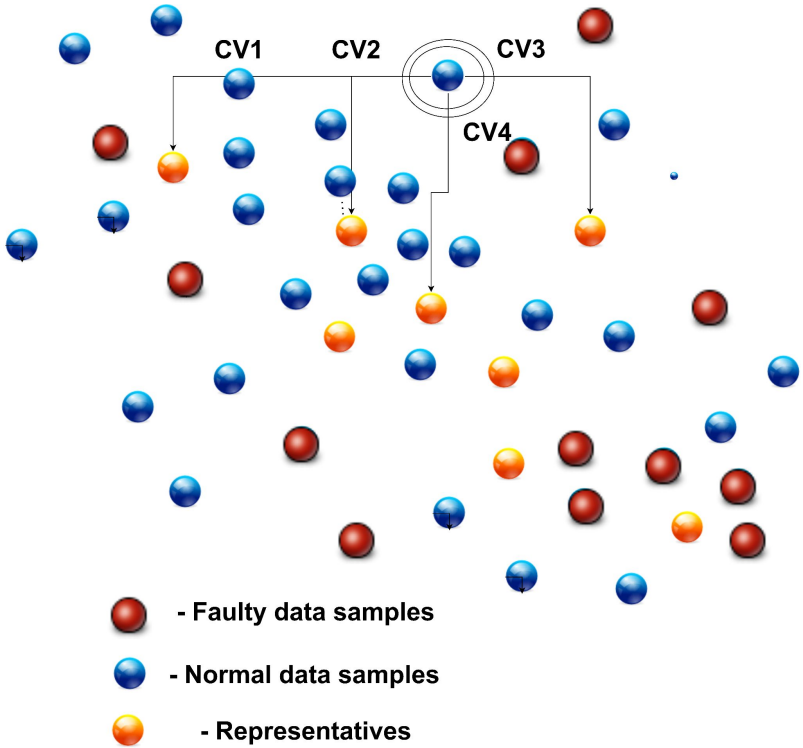
https://colab.research.google.com/drive/12-hPFMirqemG8y5Bo6SIB86SpU-xsUSB?usp=sharing

GAN Based domain adaptation:

https://colab.research.google.com/drive/1y3ywe0GcEFTDegh72_D_hwvcqgN0T-g1?usp=sharing

Representation Based Classification

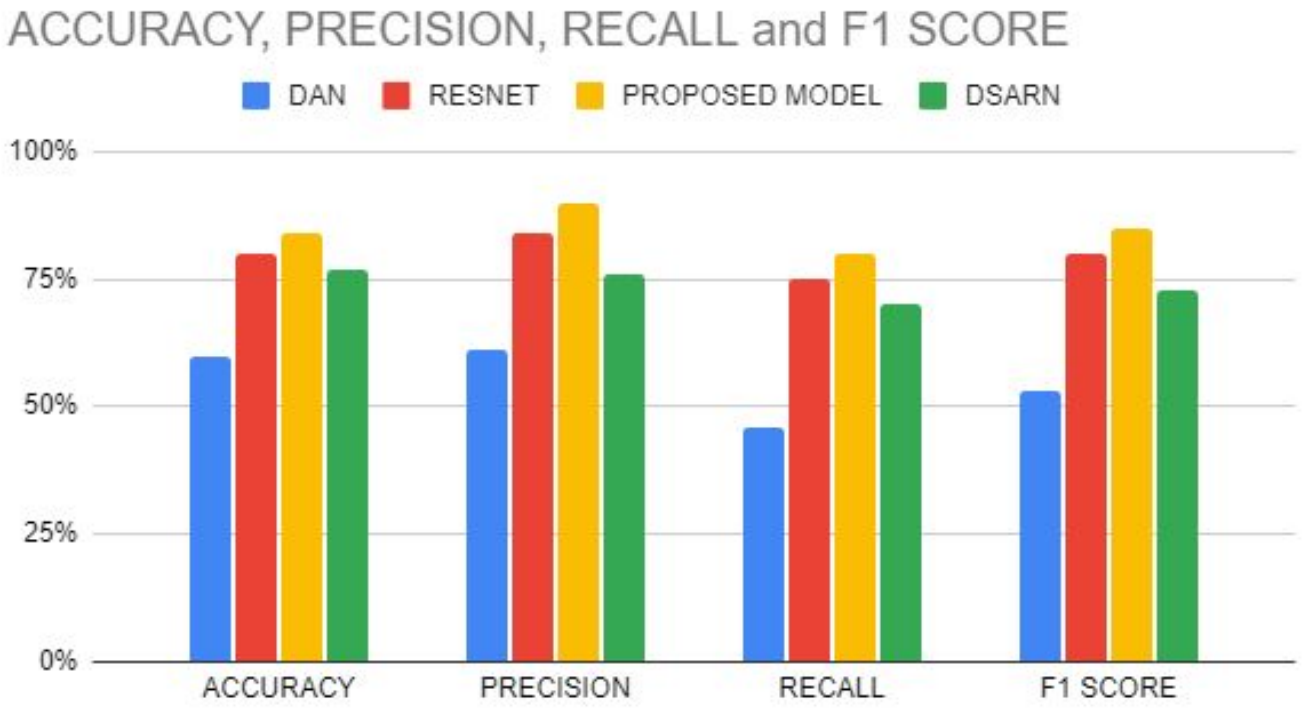




Analysis of results through comparison, validation and verification

MODEL	ACCURACY	PRECISION	RECALL	F1 SCORE
DAN	60%	61%	46%	53%
RESNET	80%	84%	75%	80%
PROPOSED MODEL	**84%**	**90%**	**80%**	**85%**
DSARN	77%	76%	70%	73%

Analysis of results through comparison, validation and verification



Conclusion and future work

- All the three proposed works are implemented individually and comparative analysis for their results are done separately.
- The individual models are integrated and collective results were analysed.
- The results are satisfying compared to existing domain invariant classifiers.
- In future work, we hope to design a more effective weighting strategy to solve the effect of self-supervised learning on the target domain largely depends on the quality of the source model.


Thank
You