

Abstract geometric lines in the top left corner of the slide, consisting of several overlapping, irregular polygons and lines in a light blue-grey color.

INCIDENT POSTMORTEM ANALYSIS

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GEAN INTRODUCTIONS



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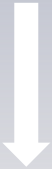
Nourien Fouad
*Minerva University
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Cognitive Neuroscience*



CURRENT MANUAL PIR PROCESS



ICM flags incident
for review



On Call Engineers discuss
incidents marked for
postmortem during WSR



SREs take notes on completed
postmortems during WSR



SREs manually identify patterns
using postmortem info & pre-
existing PD



Manually identified info is
entered and stored in excel sheet



Data is imported to Power BI to
derive and share insights



AUTOMATED PIR PROCESS



On Call Engineers
discuss incidents
during WSR



Run program that
utilizes GPT 3.5 &
DistilBERT to predict
patterns + summary
from postmortem info



Save findings in Power
BI then report & derive
insights from patterns
using Power BI



OVERALL PERFORMANCE

LLM PRECISION

How consistently LLM predicted patterns

Month (2022-2023)	Amount of PIRS	Precision
December	16	80%
January	13	92%
February	18	94%
May	25	95%



BERT ACCURACY

How well BERT matched predicted patterns

Month (2022-2023)	Amount of PIRs	Accuracy
December	16	73%
January	13	78%
February	18	70%
May	25	70%

$$\text{Precision} = \frac{\text{TruePositive}}{\text{TruePositive} + \text{FalsePositive}}$$

$$\text{Accuracy} = \frac{\text{TrueNegatives} + \text{TruePositive}}{\text{TruePositive} + \text{TrueNegative} + \text{FalseNegative}}$$



LLM PIR COMPARISON EXAMPLE

Manually Derived
Pattern

- Resilience

LLM Predicted
Pattern

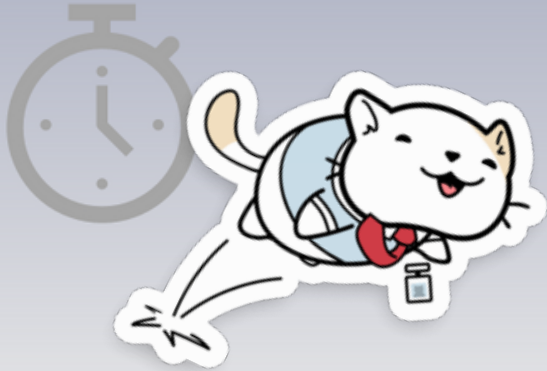
- 'Need for better resilience strategies'

BERT Predicted
Pattern

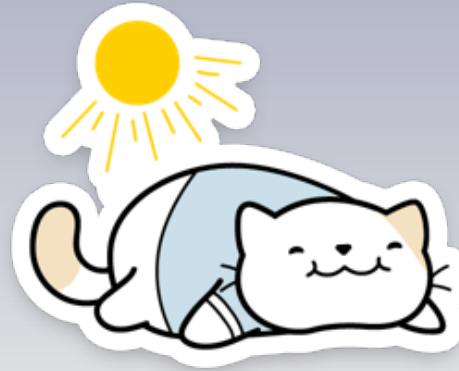
- {'Resilience': 'Need for better resilient systems, services, or strategies'}



BUSINESS IMPACT



Allowing SREs to streamline the postmortem process by reducing manual hours spent analyzing incidents



Serving as an “AI Copilot”: SREs can focus on solutions to reduce the impact of recurring incidents



Reducing time to mitigation, time to detection and impact of incidents that occur across the Substrate organization





THANK YOU!

How many cats were in this presentation?